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THE ENERGY BUDGET AT THE EARTH'S SURFACE:

A STUDY OF THE CARBON DIOXIDE CONCENTRATION

MONITORED OVER AN AGRICULTURAL FIELD NEAR ITHACA, N. Y.

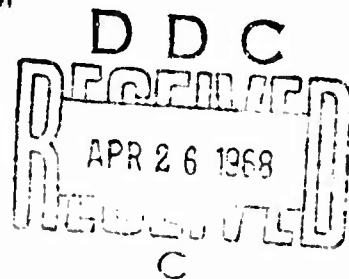
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INTERIM REPORT

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FEBRUARY 1968



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Prepared by

L. H. Allen, Jr.

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U. S. Department of Agriculture
Ithaca, New York

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A STUDY OF THE CARBON DIOXIDE CONCENTRATION
MONITORED OVER AN AGRICULTURAL FIELD NEAR ITHACA, N. Y.

by

L. H. Allen, Jr.

INTRODUCTION

Carbon dioxide is one of the atmospheric gases which is quite significantly involved in biological processes near the earth's surface. Since carbon dioxide occurs in such small concentrations, transport processes become important both for supplying carbon dioxide to green plants at the earth's surface, and in dispersing carbon dioxide respired by plants and soil organisms. Therefore, because of these active processes and the minute atmospheric concentrations, carbon dioxide concentrations might be expected to be quite variable in the vicinity of the earth-atmosphere interface.

Not only is carbon dioxide important biologically, but it may also be important meteorologically. Carbon dioxide, along with water vapor, has strong absorption bands in the infrared region of the spectrum, such as 2.7, 4.3, and 14.9 μ . Even though its concentration is low, it affects the exchange of long-wave radiation within the atmosphere, and must be taken into account in computing atmospheric radiation balance. Elsasser's (1942) radiation chart is an example.

The possible effects of carbon dioxide in influencing climate have been the subject of wide concern and speculation in recent years, as evidenced by the publications of Dingle (1954), Plass (1956, 1959), Kaplan (1960), and Miller (1963). So far the conclusions appear somewhat contradictory.

The objectives of this study were:

1. To measure the total carbon dioxide concentration at various levels of the atmospheric surface layer over different surface conditions during different seasons;
2. To measure other micrometeorological parameters such as wind velocity, net radiation, and air temperature concurrently with the total carbon dioxide measurement.

The objectives as stated above have not been met completely. Extensive carbon dioxide data have been collected over a cornfield in Ellis Hollow (near Ithaca, N. Y.) during the 1962 growing season, but all of the supporting meteorological parameters are not available for all of the days.

Also, studies at various levels have not yet been undertaken. However, enough data have been collected for this type of site to show which meteorological parameters have a significant influence on carbon dioxide concentrations. Also, data during different seasons are available. After the corn was harvested (all the above-ground parts removed), data were collected on into the winter after snowfall. These data were collected over a bare soil surface with surrounding conifer and hardwood vegetation at a distance of several hundred meters, as well as an adjacent alfalfa field 100 meters to the east. In addition to the supporting data mentioned above, total short wave radiation data and soil temperature data also were collected. Rainfall data and plant growth data were available and are included. The carbon dioxide concentrations and supporting meteorological data are presented in full in Appendix I.

Later, in 1964, more carbon dioxide data were obtained in mid-winter over a bare field site during late January, February, and early March. Also, data were collected over a crop of oats in late May and in June. These data helped to round out the picture of the annual cycle of carbon dioxide concentration when used with the 1962 data.

A more complete description of the field location is given by Lemon, Shinn, and Stoller (1963).

DESCRIPTION OF CONDITIONS AT THE EXPERIMENTAL SITE

The site where the 1962 carbon dioxide measurements were taken was a 12-acre cornfield in a valley (Ellis Hollow) near Ithaca, N. Y. Surrounding this area some 1/2 to 1 mile away are high hills with mixed forest vegetation. The sampling area was close to the middle of the cornfield. The field itself was heavily fertilized with mineral fertilizer and parts of the field received 30 tons per acre of manure (important source of carbon dioxide). The crop was quite dense, being seeded to 32,500 seeds per acre.

Rainfall. Moisture was quite limiting early in the growing season (June and July). Table 1 shows the rainfall and irrigation in the carbon dioxide sampling area. During the early part of the growing season, water was quite a limiting factor in plant development. Some areas of the field were more droughty than others, and an irregular patchwork of crop heights resulted.

Growth data. Pertinent growth data are presented in Table 2. The heights listed are heights to the uppermost ligule on the plants. The dry weight refers to the total dry weight of above-ground parts.

The 1964 carbon dioxide sampling was done in the same field. In mid-winter, of course, the field was bare and also covered with snow to some degree. The sampling in late May and June was over a 3 to 4-acre site of oats. The oats were about 8 inches tall and growing vigorously when sampling of carbon dioxide was begun on May 28, 1964.

A dehydrating material "Dehydrite" $[Mg(ClO_4)_2]$ was used to remove water vapor before the sample reached the analyzer. Later it was found that this dehydrating procedure was unnecessary, and it was discontinued after October 16, 1962. It was used again in 1964, however. The effect of water vapor on the analyses by the infrared analyzer will be discussed later.

Incident short wave radiometer. Incident short wave radiation was measured with an Eppley pyranometer.

Net radiometer. The net radiometer used was a Beckman & Whitley ventilated-type.

Wind system. Wind data were collected from a 4-anemometer Beckman & Whitley wind profile system. The readings from electro-mechanical counters were photographed periodically. Data from only one level are reported here to describe a reference horizontal wind velocity.

Air temperature. Two different thermocouple arrangements were used to record air temperature. While the corn crop was growing, air temperature was measured by an aspirated thermocouple near the top of the crop. After harvest (all of the tops removed), the air temperature was measured by an unaspirated radiation-shielded thermocouple.

Soil temperature. For soil temperature two different arrangements also were used. Before harvest the soil temperature was measured using a thermocouple at a depth of 2 cm in the middle between two rows of corn. After harvest, soil temperature was measured at a depth of 5 cm.

DATA COLLECTING PROCEDURES

Collection of carbon dioxide concentration data was started July 1, 1962 along with incident radiation data. The analyzer was checked every few days for correct zero setting and calibration. Later, on July 25, a net radiometer was set up and net radiation data were collected. Air temperature at 220 cm were taken starting August 22, and soil temperature at 2 cm depth on August 24. The wind system was not put into operation until September 11. However, windspeed is one of the most important meteorological parameters affecting carbon dioxide concentration at the earth's surface, as will be explained later.

The 1964 carbon dioxide concentration sampling was started on January 24, 1964, and continued until March 9, 1964. At this point the collection of data was interrupted by analyzer problems. On May 28, 1964 sampling was resumed over a crop of oats and continued through June 30, 1964.

The carbon dioxide sampling heights, as well as the heights at which some of the supporting measurements were taken, varied throughout the time that data were taken. All this information is summarized in Table 3.

CARBON DIOXIDE SOURCES AND SINKS

Over most of the land area of the earth, biological processes play the most important role in the carbon cycle. Of course, in certain areas—around volcanoes or fumaroles—geologic processes may be quite important, and in oceanic regimes, the sea water plays an important part in the carbon dioxide balance as indicated by C^{14}/C^{12} studies of Revelle and Suess (1957). Many other researchers have been involved in studying the carbon dioxide balance in nature, particularly of the accumulation and/or disposition of carbon dioxide from fossil fuels. Eriksson and Welander (1956), Fonselius, Koroleff, and Wårme (1956), Craig (1957), Arnold and Anderson (1957), Callendar (1958), Bray (1959), Keeling (1958, 1960), Kanwisher (1960), Takahashi (1961), Pales and Keeling (1965), Brown and Keeling (1965), are among those who have made recent studies. Many of these studies are concerned mainly with the oceans as carbon dioxide reservoirs. However, at this station, only terrestrial biological processes are important in causing local variations in carbon dioxide concentration.

Photosynthesis. Green plants utilize carbon dioxide in the photosynthetic process, thus depleting the carbon dioxide concentration of the air above the earth's surface. This is the only important carbon dioxide sink over most of the earth's surface.

The importance of photosynthesis in depleting the atmospheric carbon dioxide may be illustrated by computing the amount of carbon dioxide required by a vigorously growing corn crop. From dry matter accumulation studies of 1962 corn at this station, Allen et al. (1964), an average of 400 lb/ CO_2 /acre/day were required for dry matter production, including estimated plant respiration during the rapid growing part of the season. This would require all the carbon dioxide from a volume of air some 80 meters deep. This rate of depletion of CO_2 due to photosynthesis would require all of the CO_2 above the earth's surface in slightly over 100 days. Evidently respiration and oceanic sources keep the atmospheric supply up. Photosynthesis evidently is capable of causing considerable diurnal and seasonal variations in CO_2 concentrations.

Actually, only about 30% of the earth's surface is land mass. If the total land surface depleted the CO_2 supply by photosynthesis at the rate of 400 pounds CO_2 per acre per day, the amount of carbon dioxide fixed in one year's time would be equivalent to the whole atmospheric content. Lieth (1963) computed exchange rates in a forest in Europe and a forest in the Malayan Archipelago, drawing upon data from Möller, Müller, and Nielsen (1954), Becking (1962), Ogawa, Yoda and Kira (1961), and Lieth (1962). He found the turnover time for the atmospheric CO_2 in the atmosphere above an European forest to be about 2 years, and the turnover time for a Malayan forest to be 3/4 year. Lieth (1963) also reported that Overbeck and Happach (1957) showed that the production

rates of peat bogs in Germany were between 2.5 and 10 tons per hectare. From these measurements Lieth computed that the CO_2 consumed would be equivalent to the total amount of CO_2 in the atmosphere with 3 to 5 years.

Of course, the world-wide turnover rate is much less than that computed for the four situations above. Plass (1956, 1959) indicated a world-wide estimate of photosynthesis at 60 tons per year out of a total atmospheric content of 2,300 tons. His estimates would indicate only a 2.6% draw-down on an annual basis, or a turnover time of some 38 years. It is not clear whether his estimates are for land plants, or for the whole photosynthesizing biosphere.

Lieth (1963), on the basis of compilations by Müller (1960), Noddack (1937), and Gessner (1959), reported that the exchange activity of carbon per year for the land area was about 15×10^9 tons (metric) and for the ocean area 12 to 15×10^9 tons. With his reported value of 697×10^9 tons of carbon in the atmosphere, he computed that the world vegetation could fix the entire CO_2 of the atmosphere in 23 to 26 years.

Obviously much of the CO_2 fixed is rapidly being returned to the air by respiration and decay. However, Lieth (1963) shows that in starting from a bare soil and going to climax vegetation in middle European conditions would result in roughly 10 times as much CO_2 being tied up in biomass and roughly 5 times as much CO_2 being tied up in the geosphere as exists in the atmosphere above. Also Lieth (1963) estimates that about 75% of the initial uptake of CO_2 becomes part of the biomass with some degree of persistence (with exchange times of the order of a month or longer). So except for exchange from other reservoirs, CO_2 concentration could fluctuate wildly with changes in biomass storage and release.

Hellmers (1964) reviewed the literature to evaluate the photosynthetic efficiency of crops and forests. From various sources he found that the photosynthetic efficiency reported for agricultural crops ranged between 1.9 and 3.2%, and for mature forest stands between 2.2 and 3.5%. Scots pine was reported to have a peak photosynthetic efficiency between 2.2 and 2.6% (Blackman and Black (1959), Hellmers and Bonner (1960), Ovington (1961)). Beech was reported with an efficiency of 3.5% by Blackman and Black (1959), and 2.5% by Hellmers and Bonner (1960).

All of these figures were below those reported by Allen, Yocum and Lemon (1964) for a rapidly-growing corn crop on the basis of dry matter accumulation. They reported a 6.8% photosynthetic efficiency of absorbed visible radiation. Also Yocum, Allen and Lemon (1964) reported a 5.1% efficiency based upon flux of CO_2 measurements based upon aerodynamic methods (Lemon, 1960). The reason for low photosynthetic efficiencies of agricultural crops gleaned from the literature by Hellmers is that they were computed over the total growing season including times of incomplete

plant cover, whereas the forest photosynthesis efficiency figures were based on mature stands. Hellmers (1964) also explained that Scots pine had a lower photosynthetic efficiency than beech due to the fact that the efficiency was reported for the whole year in the first case, and for the leafed-out portion of the year in the second case.

Bray (1961) calculated the highest photosynthetic efficiency reported in the literature, 7.9% for *Picea omorika*. He allowed for losses of reflected light, for absorption by non-chlorophyll-containing plant parts, and for respiration.

Irregardless of what the exact photosynthetic efficiency of crops and forests may be, during the most rapid periods of growth in the temperate zones, CO₂ fixation may exceed release in the carbon cycle and cause a depletion of CO₂ in the atmospheric reservoir, particularly over extensive agricultural areas. This effect will be discussed again later.

Photosynthesis has been studied intensively recently on the basis of CO₂ concentration profiles and eddy diffusivity. Wright and Lemon (1966) show CO₂ concentration profiles within and above corn at this location in 1961. They used a two-flowing-gas-cell differential CO₂ analyzer with a range of ± 12.5 ppm. They computed CO₂ flux densities at various heights within the vegetation. While sampling simultaneously at heights of 268 cm and 358 cm above the ground in an immature 220 cm tall crop of corn, they showed mean differences in CO₂ concentration of the order of 5 ppm in the daytime and mean differences ranging up to greater than 12.5 ppm at night. Also their records showed that the variation in the difference in CO₂ concentration was almost as large as the mean difference itself. My sampling system used to monitor CO₂ did not pick up this variability. The sampling system used to monitor CO₂ did not pick up the variability of CO₂ concentration because it had a much lower sensitivity, covering the range of 0 to 500 ppm rather than ± 12.5 ppm, and because the overall system had a low response time.

Photosynthesis has also been studied on the basis of above-crop concentration differences at two levels as described by Lemon (1960), and field-installed plant growth chambers by Moss (1959), Musgrave and Moss (1961), Moss, Musgrave and Lemon (1961), Baker and Musgrave (1964a, 1964b) and field installed leaf growth chambers by Hesketh and Musgrave (1962). Lemon (1965) compared the net CO₂ exchange rates obtained by aerodynamic computations with that obtained by Baker and Musgrave using closed growth chambers in the field. He found close agreement between the two methods, with dips in the CO₂ flux rate to the vegetation showing up on a day with intermittent cloud cover.

While thinking of photosynthesis, it would be interesting to compute by what factor the estimated rate of photosynthesis exceeds the rate of minimum food requirement of the earth's population. Let there be 3 billion people requiring 3,000 kg-cal per day for 365 days per year. Let there

be 4,000 cal per gram in (solid) food. This yields 3.3×10^{18} cal/year food requirement, or 8.2×10^{14} gms per year of solid food (CH_2O). This is 3.3×10^{14} gms carbon fixed per year, or 3.3×10^8 metric tons. From Lieth (1963) we have about 15×10^9 metric tons of carbon exchanged for the land area of the world per year. This yields a safety factor of about 45. Considering the oceans would only raise this factor up to 90, if we accept Lieth's (1963) value of 15×10^9 tons of carbon per year.

Plant respiration. At nighttime, plant respiration liberates significant amounts of carbon dioxide back into the atmosphere. During the daytime, carbon dioxide uptake by green plants exceeds respiration, and thus masks this effect. Moss (1959) has data showing that peak photosynthesis rates in corn may exceed plant respiration by a factor of 20.

Soil respiration. Soil organic matter becomes an important source of carbon dioxide whenever conditions are favorable for its decomposition. At this site, soil respiration may have been a quite important source of carbon dioxide since part of the field was heavily manured before planting.

Soil respiration rates can vary wildly. Lundgårdh (1927) measured soil respiration rates of 20 to 440 lbs/acre/day. Moss (1959) reported an average of 3.5 lb/acre/hour (≈ 84 lb/acre/day) for measurements made at Aurora, N.Y. in September and October 1958. Soil respiration rates (including litter) may be much lower for agricultural crops where much of the plant growth is harvested than for natural vegetation. However, this carbon is not lost in the ultimate carbon cycle.

FACTORS AFFECTING CARBON DIOXIDE CONCENTRATION—METEOROLOGICAL AND BIOLOGICAL INTERACTIONS

Computer analysis. The factors affecting the concentration of carbon dioxide near the earth's surface were analyzed two ways. Visual inspection of the data, especially on a diurnal basis, revealed much about the behavior and trends of carbon dioxide concentration. Regression analyses of "grouped" data after visual inspection showed relationships on a more objective basis. The results of this study are discussed from both standpoints. A Control Data 1604 Computer at Cornell University was used for running regression analyses.

For regression analyses, the data were grouped in certain obvious ways. First, daytime and nighttime periods were considered separately. Later, discussion of some of the diurnal trends will make this separation an obvious necessity. Nighttime data were analyzed only between the times of 2000 hours EST and 0400 hours EST to avoid most of the change from daytime to nighttime conditions.

Secondly, data from different seasons and different crops were considered separately. Thirdly, the carbon dioxide data were analyzed more intensively where there were the most supporting meteorological data available.

The results of the regression analyses are summarized in Appendix III. Appendix II presents some of the summarized data used in these analyses.

Air mass origins. Krogh (1904) studied the carbon dioxide concentration of the atmosphere of Greenland and concluded that one of the factors likely to be affecting carbon dioxide concentration near the earth's surface is the origin of the air mass. Various air masses may have different concentrations of carbon dioxide depending upon whether the air mass is maritime or continental, and for how long carbon dioxide was being removed from it as it passed over land surfaces populated by growing plants.

Investigators in Scandinavia have found quite noticeable differences in carbon dioxide depending upon air mass origins. Fonsellus, Koroleff, and Wårme (1956) reported several striking instances of this. On one occasion (September 20, 1955) calculations showed that a westward moving warm front over Finland averaged 356 ppm carbon dioxide, whereas a northerly current of polar maritime air averaged about 324 ppm.

An attempt was made in this study to see if any pattern of carbon dioxide concentration could be traced back to air mass origin. No relationships could be developed from these data, however. Possibly one reason was that the sample height was so close to the plant surface that the background differences, if they existed, would have been masked by local influences.

Using barometric pressure as an air mass indicator, several regression analyses were run on the 1962 and 1964 carbon dioxide data (see Appendix II). The daytime average pressure was taken as the average reduced sea level pressure at Syracuse, N. Y., published on the Daily Weather Maps (1962) for the 1 AM values bracketing the daylight hours. The nighttime hourly values were taken from the Local Climatological Data (Supplement) (1962, 1964) published for Broome County Airport (Binghamton, N. Y.), elevation, 1590 ft.

The correlation coefficient for the nighttime carbon dioxide data of September 11-30, 1962 with barometric pressure was only 0.04. The daytime July, August and September 1962 carbon dioxide concentration vs. pressure correlation coefficients were higher (but negative), being -0.10, -0.31 and -0.38 respectively. However, much of this was due to a correlation between incident short wave radiation and atmospheric pressure, since clear days were usually associated with high atmospheric pressure.

Studies in both the Atlantic, Takahashi (1961), and the Pacific, Keeling, Rakestraw, and Waterman (1965), showed only small difference in atmospheric CO₂ concentration on shipboard expeditions from northern to southern latitudes. However, CO₂ concentrations in sea water varied markedly with latitude. Takahashi (1961) reported a range in average P_{CO₂} of 304.1 to 314.5 x 10⁻⁶ atm for air over the Atlantic Ocean, and a range of average P_{CO₂} of 249 to 345 x 10⁻⁶ atm for sea water. Keeling, Rakestraw and Waterman² (1965) reported an average concentration of CO₂ in the air ranging from 310.8 ppm to 318.4 ppm and an average concentration of CO₂ in equilibrated sea water ranging from 271.6 to 400.3 ppm. In both cases, there appeared at best only a weak association between the atmospheric CO₂ and the oceanic CO₂ level. This probably indicates low flux rates. Keeling (1965) suggested a flux rate of about 2 x 10⁻³ gm CO₂ per cm² per year. This is low compared to 4.5 x 10⁻³ gm CO₂ per day which was the flux rate from the Allen, Yocum and Lemon (1964) corn crop data. Perhaps low exchange rates with oceanic water is why no noticeable changes in atmospheric CO₂ over seas with varying equilibrium partial pressure of CO₂ (P_{CO₂}) exist. However, over land mass areas, air mass origins should have some influence.

Bischof and Bolln (1966) reported two instances where air mass origin effects could be seen. On a flight at 500 meters from Bombay, India (18°N) to Gan (4°S) on February 19, 1964 the data showed an average of about 327 ppm CO₂ along the West Coast of India, but an average of about 320 ppm further south over the Indian Ocean. The prevailing winds were from the east, over the Indian land mass when the higher CO₂ concentrations were obtained, and over the Indian Ocean when the lower CO₂ concentrations were obtained.

Bischof and Bolln (1966) also reported on 70 samples collected during flights from South Carolina out over the Atlantic Ocean during a synoptic situation when a moderate north-westerly current brought continental air out over the Atlantic Ocean. Their data show higher values of CO₂ over the continent than out around 100 km from the coast. The difference in the averages of the concentration at the two extreme sampling locations were of the order of 6 ppm CO₂.

Windspeed. Turbulent motion of air causes mixing, and hence exchange of carbon dioxide from the air mass to the earth's surface, during the daytime when plants are a sink for atmospheric carbon dioxide. At night, the wind tends to disperse the carbon dioxide liberated by plant and soil respiration.

In this study, daytime concentrations of carbon dioxide tended to be much more uniform than nighttime concentrations, especially during the growing season. Also, from the data in Appendix I and Figures 1, 2, 4 and 5, it can be seen that the daytime windspeeds tended to be higher. The more thorough mixing resulting from a higher windspeed apparently results in a more or less constant concentration of carbon dioxide at our sampling

levels. Results of carbon dioxide measurements with a differential analyzer indicated that the carbon dioxide concentration difference between a distance of 1 m immediately above the top of the crop may vary by more than 5 ppm. However, differences of less than 5 ppm were hard to discern on the infrared analyzer used to determine total carbon dioxide concentration.

The carbon dioxide sampling of Fonsellus, Koroleff and Buch (1955) was usually done at 1300 hours. Our observations using continuous recording equipment indicate that this is a good time of day for sampling, and for picking up long-term trends because the carbon dioxide concentration is usually steady during midday.

From the data of Appendix I and from the figures, specifically Figure 1, September 15, 1962, we see that the diurnal variation of carbon dioxide concentration at a height immediately above the corn plants is a striking feature of these patterns. Examination of the data shows a typical nighttime concentration ranging between 400 and 500 ppm, with daytime concentrations typically below 300 ppm. This type of pattern was also reported by Chapman, Gleason and Loomis (1954), Keeling (1958, 1960, 1961), Huber (1952, 1960), Lieth (1963), Bischof (1960), and Horibe (1964). Obviously, there is a carbon dioxide buildup near the ground during the nighttime hours, (Pales and Keeling (1965), Kelley and Weaver (1966)).

The values of the diurnal variations reported here are typically larger than reported elsewhere. At this site near the crop level in the summer the diurnal variation frequently exceeded 200 ppm CO_2 . Bischof (1960) shows figures indicating diurnal variations over a golf course of more than 100 ppm. Huber (1952, 1960) indicates diurnal variations above a wheat field in excess of 150 ppm. Keeling (1958, 1960) in studies in West Coast forests, found variations exceeded 100 ppm in some forests but were quite small in others. These differences were probably related to different windspeed regimes. Chapman, Gleason, and Loomis (1954) in one of the best studies in the USA of CO_2 within and above crops indicate a CO_2 diurnal range of nearly 200 ppm on a calm night and day. Horibe (1964) reported diurnal variations over a paddy field of greater than 100 ppm. Studies outside of agricultural forested areas have shown diurnal variations also, but not nearly to the extent that is seen within and immediately above heavy vegetation. Kelley and Weaver (1966) reported a diurnal variation of only about 10 ppm CO_2 during two studies in July and August 1965 at Point Barrow, Alaska. Observations at Mauna Loa, Hawaii, Pales and Keeling (1965), show an average annual diurnal variation of only 1 ppm. The average diurnal variation was largest during the late summer months when it was about 2 ppm. There was little change there because the sampling station was above the trade wind inversion. In Antarctica, diurnal variations just do not exist (Brown and Keeling, 1965).

In this study on some nights the concentration of carbon dioxide rose only a little higher than the daytime values. On days when wind velocity measurements were available, it is apparent that high carbon dioxide concentrations occurred with low wind velocities, and low concentrations with high velocities. Apparently, the higher windspeeds were sufficient to disperse the carbon dioxide liberated by plant and soil respiration, while low windspeeds allowed a buildup of carbon dioxide within and immediately above the plant canopy. The critical windspeed at a height of 490 cm, or 275 cm above the mean height of the corn tops, appeared to be about 100 cm/sec, as can be seen in Figure 2. Figure 3, September 27, 1962, illustrates a day with both high and low nighttime speeds. Also, this same effect of high windspeed (> 100 cm/sec) showed lower carbon dioxide concentrations than intervals with low windspeeds (< 100 cm/sec).

This type of behavior of CO_2 concentration with windspeed was also observed by Chapman, Gleason and Loomis (1954) in a cornfield. The buildup they observed did not reach a height of 30 meters during the night. Huber (1960) also shows that a nocturnal buildup occurs over the ground, but does not penetrate up to 50 meters until early morning mixing occurs. Both of these references show that around sunrise mixing starts, and soon the CO_2 is well-mixed up to at least heights of 152 or 100 meters respectively. Neither of these reports included windspeed data, though Chapman, Gleason and Loomis (1954) indicate "still" conditions when CO_2 buildup occurred.

During daylight hours, the effect of windspeed on carbon dioxide concentrations was not nearly so pronounced as at night. Thermal instability probably helped mixing quite a bit at these times. Also, the thermally stable nighttime plant-air layer probably resisted mixing. This may account for the rather sharp changes in carbon dioxide concentration at windspeeds around 100 cm/sec, under the conditions of measurement at this site. Chapman, Gleason and Loomis (1954), sampling at a height of 1 m in corn, instead of near the crop tops at 2 m as in this study, found that the concentrations of carbon dioxide were significantly lower on calm days than on windy days.

Regression analyses. Some data for September 1964 showed a correlation coefficient of 0.22 for daytime carbon dioxide concentration vs. daytime total windspeed. The F value for the regression line so obtained was not significant. However, daytime carbon dioxide vs. daytime total windspeed for the 1964 oat data gave a correlation coefficient of 0.66. The results of these analyses are in Appendix III.

The same diurnal trends in carbon dioxide concentration observed in 1962 were observed over oats in 1964. Here the nighttime effects seem to be modified, however. The carbon dioxide did not build up to as high concentrations at night. However, this may be due to the fact that

sampling occurred at a greater height above the top of the oat crop (175-200 cm) than above the corn crop, the sampling there being at the crop top later in the season. (See Table 3.)

Sunlight. Sunlight did not seem to affect the level of the carbon dioxide concentration during the day once a certain level of light intensity had been reached. Once the light intensity became high enough, the carbon dioxide concentration usually leveled off and remained constant throughout the day. This behavior was especially true for moderately-lighted and well-lighted days. Only on days of extremely poor illumination did the carbon dioxide concentrations show any noticeable changes in daytime concentration. Figure 4 illustrates this slight effect for two successive days, August 14 and August 15, 1962, the former well-lighted, the latter poorly lighted.

Even though generally the carbon dioxide concentration did remain rather constant throughout the daylight hours of a given day, there was a correlation between average daytime carbon dioxide concentration and total daily incident shortwave radiation (see Appendix III). In July 1962 there was little correlation between carbon dioxide concentration and incident shortwave radiation (correlation coefficient = -0.05). However, the correlation was significant for August and September data (-0.68 and -0.42, respectively), and for the 3 months as a group (-0.24). On the other hand, the correlation coefficient for 1964 oat data was +0.17. Since radiation level is probably highly correlated with clear days of Canadian air mass, CO₂ concentration may be increased more by the undepleted northern air than crops are drawing it down, especially in the early spring.

One of the most striking features of the diurnal pattern of carbon dioxide concentration was the sharp decrease from nighttime concentrations of carbon dioxide to daytime concentrations. This change usually occurred during a time interval of less than one hour. However, it appeared that the decrease in carbon dioxide started before enough light was available to really cause a draw-down due to photosynthesis. The following mechanisms are suggested to account for this early morning draw-down.

1. Light starts photosynthesis, and plants take up the carbon dioxide that has accumulated within and immediately above the plant canopy.
2. Light causes stomates to open, and excess carbon dioxide is taken up faster than photosynthesis actually proceeds.
3. Air near the earth's surface becomes unstable at sunrise and thermal turbulent mixing results.
4. Horizontal windspeed increases around dawn and disperses the carbon dioxide by mechanical turbulent mixing.

Possibly a combination of all these factors is responsible for the rapid decrease in carbon dioxide concentration.

As was mentioned earlier Chapman, Gleason and Loomis (1954) and Huber (1960) also reported on the rapid decrease of CO_2 concentration near the ground around sunrise. They both attributed it to thermal mixing.

Air temperature. Air temperatures in 1962 were monitored beginning August 22. Daytime carbon dioxide concentration does not appear to be related to this meteorological parameter. Theoretically, it could influence the rate of respiration and the rate of photosynthesis of plants. Possibly some of the post-harvest variations in concentration may be due to temperature effects. (See Figure 5, November 28, 1962). Presumably, some photosynthesis by surrounding trees was sufficient in the afternoon to cause a draw-down of the carbon dioxide concentration. An increase of windspeed is noted also for most of the days of the type in Figure 5. This wind probably is induced by the warming trend for those days.

Soil temperature. Soil temperature measurements were begun August 24, 1962. Soil temperature did not seem to affect carbon dioxide concentration very much. However, a snow cover on the soil (and surrounding plants and trees) resulted in a practically constant carbon dioxide concentration throughout the day. Figure 6, December 10, 1962, illustrates such a day.

Combinations of factors. Nighttime carbon dioxide concentrations seemed to be somewhat related to both air temperature and soil temperature. Regression analyses of nighttime data for the period August 28 to September 11, 1962 yielded correlation coefficients of -0.57 and -0.32. However, the correlations were lower for September 11 to 30 data, being -0.43 and -0.04, respectively. The nighttime temperature difference, $(\Delta T = T_{\text{soil}} - T_{\text{air}})$ seemed to have a greater effect.

One would expect this to be so, since it is related to the stability of the air within the plant canopy. (Of course, ΔT , net radiation, R_n , and reference windspeed are all interrelated factors). Nighttime carbon dioxide concentration, when correlated with ΔT gave correlation coefficients of 0.65 and 0.43 during the above two time periods.

Using the September 11 to September 30, 1962 data, several relationships involving temperature and windspeed were investigated in seeking out factors affecting nighttime carbon dioxide concentration. The "stability parameter", $\frac{\Delta T}{-2}$, gave a fairly good correlation coefficient, 0.63, carbon dioxide was related to it linearly. However, as can be seen from Appendix III, and from Figure 7, the best regression case was given by fitting carbon dioxide concentration to $\bar{T} + \Delta T/\bar{u}$, where:

- \bar{T} = average of air and soil temperatures in °C.
- ΔT = soil temperature minus air temperature
- \bar{u} = windspeed, averaged over an hour time period.

The value of the correlation coefficient was 0.84.

At first thought, one may wonder why the parameter $\bar{T} \cdot \Delta T / \bar{u}$ gave the highest correlation coefficient of any of the many combinations tried which are shown in Appendix III. However, CO₂ concentration at night is biologically generated. Hence, its rate of production would be related to the temperature field around the plants. \bar{T} turned out to be the best factor, though soil temperature or air temperature used with the $\Delta T / \bar{u}$ combination both give good fits to the data, as can be seen in Appendix III. The ΔT gives a thermal mixing stability term, and $1/\bar{u}$ gives a mechanical mixing stability term, both of which tend to favor accumulation rather than dispersal of the respired carbon dioxide. Therefore we can logically explain why the accumulation of CO₂ near the top of the vegetation is so well correlated with the parameter $\bar{T} \cdot \Delta T / \bar{u}$.

As can be seen from Appendix III, many other meteorological factors affect or bear a relationship to the nighttime carbon dioxide concentration.

Interrelationships of causal factors. It was recognized that several factors probably did not affect the accumulations of carbon dioxide near the earth's surface at night independently of each other. So regression analyses of several of these are included in Appendix III, notably, ΔT vs. $1/\bar{u}$, and ΔT vs. $(-R_n)$, where $1/\bar{u}$ = reciprocal reference windspeed, and $(-R_n)$ is net radiation with R_n positive when the net radiation is downward. The correlation coefficients were 0.49 and 0.62, respectively.

Finally, a step-wise regression analysis was run on all parameters used, but this process was not adjudged to be of any importance beyond the first step, because variables were added haphazardly without much of a relationship to their individual effects.

Seasonal effects. Growing season, 1962. During the growing season, the diurnal fluctuations of carbon dioxide immediately above the corn crop canopy were quite pronounced. (Figures 1, 3, 4, 5.) This is to be expected, since more biological activity is greater at this time of the year. The earth's surface is behaving both as a strong carbon dioxide source (nighttime respiration), and as a strong carbon dioxide sink (daytime photosynthesis).

Post-harvest, 1962. After corn harvest, the carbon dioxide concentrations still showed some tendency for diurnal fluctuation. However, the maximum draw-down tended to occur later in the day, usually in mid-

afternoon. (Figure 5.) This draw-down probably was due to photosynthesis continuing in conifers, grasses, and alfalfa at some distance from the sampling site. The nighttime concentrations were considerably less than those observed during the growing season. This may be due to at least the following three reasons:

1. Corn plant respiration no longer is a contributing factor
2. Soil respiration is reduced due to lower temperatures
3. Absence of a dense plant canopy underneath the sampling level allows much easier removal of the carbon dioxide that might accumulate otherwise.

Bischof (1960) made a few observations of the diurnal variation of CO₂ near Stockholm, Sweden. With easterly winds, he found a tendency for CO₂ draw-down to occur later in the day on December 8 than on July 28, 1959, over a golf course 10 km north of Stockholm. Also the amplitude of the diurnal fluctuation was lower on December 8. Bischof's (1960) variations were of the same order of magnitude as those reported here, Appendix 1, and illustrated in Figures 1, 2, 3, 4, 5 and 7.

Pales and Keeling (1965) found a distinct diurnal variation at Mauna Loa Observatory, with a rapid drop-off occurring about 1200 and a minimum at about 1600. However, the average range of diurnal concentration was small, being only about 2 ppm CO₂. The range was greater in July, August and September. Their diurnal dips were attributed to CO₂ uptake by island vegetation on the lower slopes of Mauna Loa.

Kelley and LaChapelle (1966) reported a diurnal variation on Mount Olympus, Washington, in August 1965, with a trend opposite to that usually observed over land masses. They reported a peak in CO₂ content in mid-afternoon, and a minimum in the early morning hours. This behavior was explained on the basis of valley and mountain winds coupled with CO₂-rich air from the Puget Sound and Straits of Juan de Fuca area. Their average minimum values were 314 ppm and average maximum value 321 ppm CO₂.

Annual variation. Figure 8 presents the annual variation of average daytime, minimum nighttime, and maximum nighttime carbon dioxide concentrations. These data were arbitrarily fitted to a curve of the form:

$$CO_2 = A + B \cosine \left[\frac{2\pi (D - L)}{365} \right],$$

where: A, B = constants
D = day number
L = phase shift day no.
365 = number of days per year.

The values of A and B, as well as the correlation coefficients, are given in Appendix II.

As seen from these data, there appears to be one annual cycle of carbon dioxide concentration here at this station. However, no data are presented for the period March 10 to May 27, 1964. Earlier work in Scandinavia and Finland indicates two cycles per year in carbon dioxide concentration as reported by Bischof (1960).

There are many other reports showing an annual cycle of CO₂ concentration. Huber and Pommer (1954), Huber (1960), Keeling (1960, 1961), Bolin and Keeling (1963), Lieth (1963), Paies and Keeling (1965), Brown and Keeling (1965), Bischof and Bolin (1965), Kelley and Weaver (1966), and Kelley (1966), all include data showing annual cycles. None of these reports show double annual cycles as reported by Bischof (1960), although the data of Kelley (1966) from Barrow, Alaska for 1962 show a tendency toward a double annual cycle.

Huber and Pommer (1954) reported on CO₂ concentrations obtained at a height of 18 meters above the ground from March through November 1952. They determined concentrations with an infrared analyzer. Their data are quite similar to the data in this report in many ways. Their data showed a decrease in the average daytime minimum CO₂ concentration during the summer months of June, July and August, when photosynthesis would be highest. Also their study showed that average maximum nighttime CO₂ concentrations occurred from April to September, corresponding to the time of year when plant and soil respiration would be high.

Also Huber and Pommer's data show a considerable variation in both the daytime minimum CO₂ concentrations and the nighttime maximum concentrations. The daytime minima show a range of about 20 ppm CO₂. This is comparable but smaller than the range of daytime minimum concentrations obtained in this study. This is expected since this work was done very close to the top of the vegetation and the Huber and Pommer (1954) work was done at a height of 18 meters. The range of values for nighttime maximum CO₂ concentration was greater than 100 ppm CO₂. This result was also comparable with that obtained here.

The variation in both the minimum and maximum CO₂ concentrations were much less early in the season (March), and showed evidence of becoming much less late in the season (November). The results reported here in Figure 5 are similar.

The smallest average difference between average maximum and average minimum in Huber and Pommer's (1954) work occurred in March (17 ppm), and the largest average difference in August (72 ppm).

It was noticed that the daytime carbon dioxide concentrations tended in general to be lower than the 1955-1959 Scandinavian values (Bischof, 1960), particularly in mid-summer. This may be due to the fact that our sampling was close to a very active vegetative surface, whereas theirs tended to be in more isolated locations.

The annual average of the daytime average carbon dioxide concentrations was 312 ppm (Figure 8). Hageman, Gray, Machta, and Turkevich (1959) reported an average stratospheric carbon dioxide concentration of 311 ppm, with an average deviation of less than 1% and a range of $\pm 2\%$. They took data from 1954 through 1956 at several locations in both hemispheres and at heights within the stratosphere (50,000 - 90,000 ft.).

Keeling (1960) reported carbon dioxide concentrations from 1957 to 1960. His continuous recording data stations were Little America, Mauna Loa, and La Jolla, California. In addition, surface flask samples were collected at the South Pole, on floating Arctic ice floes, and "Down-wind Cruise" (SE Pacific). Aircraft samples were taken also.

Keeling's data (1960) agree closely to those of Hageman, Gray, Machta, and Turkevich (1959). They are lower than the Scandinavian data (Bischof, 1960), which average 323 ppm over a 5-year period. Also, Keeling's cycles occur one per year, but the magnitude is quite small, and is non-existent for the Little America data. The range was 314.3 to 310.5 for Mauna Loa; 314.4 to 308.1 for La Jolla; and 317.6 to 308.1 for the aircraft samples over the northern Pacific. Perhaps the reason for these annual variations being so low is that the air was always in some near-equilibrium with the Pacific waters. The South Pole data showed no annual cycle. They did show a slight increase with time, about 1.3 ppm/year over about 2 years of data. This increase was closely equivalent to the estimated input of fossil fuel carbon dioxide.

Bolin and Keeling (1963) present further data which indicate that CO₂ concentrations sampled by aircraft at 500 mb showed a maximum range of from 308 to 318 ppm over the North Pacific Ocean. These samples were taken from 1958 to 1961. The maximum annual range was typically about 7 ppm CO₂. They also reported a newer, revised rate of increase of CO₂ concentration of 0.06 ppm per month, lower than reported previously by Keeling (1960).

Later Pales and Keeling (1965) and Brown and Keeling (1965) reported on further work at Mauna Loa and at the South Pole. The first paper showed an annual range of about 5 to 6 ppm CO₂, with a yearly rate of increase of about 0.68 ppm per year. The second paper showed the annual range in Antarctica to be about 1.5 ppm per year. The annual rate of increase was found to be about 0.72 ppm per year.

The "mean" value of CO₂ concentration included in Figure 8 was obtained by considering the various sources in the literature, e.g. Hageman, Gray, Machta and Turkevich (1959), Takahaschi (1961), Bolin and Keeling (1963), Pales and Keeling (1965), Brown and Keeling (1965), Keeling, Rahestraw, and Waterman (1965), and Kelley and Weaver (1966). The sources pointed to a value of about 315 ppm for the year of 1962. So this is the reference "mean" value plotted in Figure 8.

Summary of diurnal trends. The diurnal patterns of carbon dioxide concentration near the earth's surface tend to change with the time of year and with certain meteorological parameters such as light in the daytime and windspeed or stability at night. A typical mid-summer pattern is shown in Figure 1. The daytime carbon dioxide concentration is fairly constant, with the nighttime concentration low or high, depending on windspeed and on stability. Figure 3 illustrates the two nighttime situations better. Daytime carbon dioxide concentration tends to vary only slightly with changes in shortwave radiation. Figure 4 illustrates a "low-light" and a "high-light" day. The average daytime concentration of CO₂ for July, August and September 1962 was 291 ppm.

After harvest the carbon dioxide levels tend to fall slowly in the forenoon and reach a minimum in mid-afternoon (Figure 5). The probable reason for this was discussed earlier. After a snow cover forms, the carbon dioxide concentration tends to remain rather uniform throughout the day and night (Figure 6). The January-February-March 1964 data (Appendix 1) show that the general level of carbon dioxide concentration tends to rise to its highest value sometime in the winter season. The average daytime concentration for this period was 339 ppm, with a typical maximum diurnal range of 22 ppm CO₂. The May-June 1964 data over oats show that the carbon dioxide general level is coming down again in late spring and early summer. Figure 8 illustrates these last points. Huber and Pommer (1954) and Steinhauser (1958) report trends similar to the one of daytime carbon dioxide concentration of Figure 8.

ANALYSIS PROBLEMS

Water vapor. At the beginning of these analyses, it occurred that water vapor might introduce a significant error into the carbon dioxide determination. Two independent checks were made to see if water vapor did influence the measurements.

First, under quite humid conditions at 1600 hrs., July 9, 1962 (relative humidity approaching 100%, temperature about 25°C), the response of the analyzer was checked both with the natural atmospheric air and with atmospheric air with water vapor removed by "Dehydrite" [Mg(ClO₄)₂]_v.

Essentially, there was no change in the instrument reading when water vapor was present in the sample. Later, on July 30, a more careful study of the influence of water vapor on the analyzer was made by the following procedure. A tank of 315 ppm CO₂ in N₂ was saturated with water vapor in a bubble chamber at 29°C. Time was allowed for the CO₂ to equilibrate with the water. Then the same gas, but H₂O vapor-free, was run through the analyzer. The partial pressure of water vapor in the H₂O vapor saturated air was 40 mb. The addition of water vapor to 40 mb partial pressure caused an increase of about 0.8 scale divisions (100 scale divisions = full scale). Since one scale division corresponded to about 5 ppm CO₂, the resultant effect was that addition of water vapor resulted in an apparent increase in CO₂ as indicated below:

$$10 \text{ mb H}_2\text{O vapor} \approx 10,000 \text{ ppm H}_2\text{O vapor} \approx 1 \text{ ppm CO}_2.$$

However, this effect was a net effect. Figure 9 shows an analysis of what the real effects were, within the limits of accuracy of determining the net effect. Adding water vapor itself had a diluting effect on the CO₂ concentration of the 315 ppm CO₂ in N₂. Addition of 50 mb of H₂O vapor, assuming an atmospheric pressure of 970 mb, would result in a mixture of 300 ppm CO₂. This diluting effect is plotted as line D and the net effect is plotted as line N in Figure 9. The apparent absorption effect is given by the sum of D and N, and is plotted as line A in Figure 9. Hence we can see that water vapor may have a serious contaminating effect. However, most of the problem seems to be offset by the dilution effect of adding water vapor. So the net effect is always less than 5 ppm positive error under our field conditions. However, if the mixing ratio of CO₂ were held constant, a positive error of up to 20 ppm CO₂ equivalent could result. All of these calculations were based on the assumption of linearity of the absorption and dilution effects with addition of water vapor.

Since about 10,000 ppm H₂O is equivalent to 1 ppm CO₂ in net effect on the infrared analyzer, this means that about 2,500 ppm H₂O is equivalent to 1 ppm CO₂ in its actual effect on the analyzer system. Many recent reports in the literature express CO₂ concentration in terms of dry air, e.g., Keeling (1958, 1960, 1961), Takahashi (1961), Pales and Keeling (1965), Brown and Keeling (1965), Keeling, Rakerstraw, and Waterman (1965), Kelley and Weaver (1966), and others. In this report CO₂ concentration is expressed in terms of dry air except in 1962 after October 16. But the net effect on the determination of water vapor is small (less than + 5 ppm) since the dilution effect of H₂O vapor almost counterbalances its infrared absorption interference.

Changes in barometric pressure. Changes in barometric pressure could introduce errors if the analyzer is not recalibrated after significant changes in pressure. Essentially, the response of the analyzer is proportional to the number of carbon dioxide molecules in the path

length of the sample cell. At high barometric pressures, the number of molecules of carbon dioxide per unit volume is greater than at low pressures. Hence, the sample cell infrared beam would be attenuated to a greater extent. As long as the analyzer is calibrated with a gas of known concentration at any particular barometric pressure, no problem is presented. But if the analyzer is calibrated at one pressure, and the pressure changes significantly, then the apparent carbon dioxide concentration would change. Consider the following example.

Suppose the barometric pressure ranged from 1030 mb to 970 mb over some arbitrary time interval. If we consider 1000 mb to be the mean, then the pressure varies $\pm 3\%$. Considering a mean carbon dioxide concentration of 300 ppm at 1000 mb, this means that the instrument recorded concentration could range from about 290 to 310 ppm, or about 20 ppm. So if the instrument were calibrated under conditions of extremely high or low barometric pressure, and the pressure changed sharply, the recorded results could be significantly in error. An attempt was made to relate the variation in daytime carbon dioxide concentrations to variations in barometric pressure, but without much success. Often, large variations occurred with no significant changes in barometric pressure. All this is not to say that these pressure effects were not present, but that either (1) calibration checks were made frequently enough to correct for the infrequent wide pressure variations, or, (2) other factors were more significant in causing variability in the results—either real changes in carbon dioxide concentration or instrument error.

Actually, the daytime variation that did occur with barometric pressure was down rather than up. This is partially due to increased use of CO_2 by plants under high incident solar radiation usually associated with higher barometric pressures.

Instrument drift. The biggest source of error in the carbon dioxide analyses seemed to stem from the instrument itself. Brochures describing this type of instrument (Model 200 Lira Infrared analyzer) indicate a zero drift of less than 1% in 24 hours. However, all too frequently this was not observed to be the case for this analyzer. Over some periods of time, the instrument settings remained stable, but over other periods of time, for no apparent reason, both the zero setting and the span setting drifted considerably. So some of the data had to be discarded.

One source of drift which was not immediately recognized was due to the fact that the instrument case was not sealed; hence the carbon dioxide concentration could vary inside it when there were people inside the instrument trailer.

Error estimate. An overall error estimate is given as $\pm 5\%$. Many of the data are better than this estimate. Many of the data taken immediately after instrument calibration checks were good to at least $\pm 1\%$.

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Table 1.--Rainfall and Irrigation at the carbon dioxide sampling site, Ellis Hollow, Ithaca, N. Y., 1962*.

Date	Water	Date	Water	Date	Water	Date	Water
	Inches		Inches		Inches		Inches
<u>June</u> 6	0.80	<u>July</u> 9	0.06	<u>Aug.</u> 1	0.03	<u>Sept.</u> 2	0.04
11	0.11	13	0.09	2	0.03	5	0.21
12	0.52	18	0.19	5	0.02	6	0.72
14	0.17	19	0.12	6	0.77	11	0.96
23	0.13	21	0.03	7	0.07	15	0.04
Total	<u>1.73</u>	22	0.17	8	0.42	18	0.05
		23	0.02	9	0.02	19	0.06
		24	0.38	10	0.05	22	0.38
		26	0.23	11	0.01	Total	<u>2.46</u>
		30	1.64†	14	0.43		
		31	0.65‡	15	0.03		
		Total	3.58	21	0.12		
				27	1.32		
				28	0.26		
				29	0.02		
				Total	<u>4.05</u>		

Grand total, June through September, rainfall + irrigation = 11.82 in.

* Unpublished data of Gary H. Heichel, Cornell University.

† Includes 1.5 inches irrigation water.

‡ Includes 0.5 inches irrigation water.

Table 2.--Growth data for unirrigated corn, Ellis Hollow, Ithaca, N.Y., 1962*.

Date	Height	Dry weight	Dry increment	LAI
	(cm)	(gms/plant)	(gms/plant)	
<u>July</u> 11	16.3	9.2		0.88
18	24.5	16.8	1.1	1.41
25	45.3	27.2	1.5	2.14
<u>Aug.</u> 1	85.4	41.9	2.1	2.39
8	154	72.3	4.3	2.59
15	183	81.9	1.4	2.45
23	198	114.1	4.0	2.61
29	202	120.1	1.0	2.34
<u>Sept.</u> 12	192	148.6	2.0	2.52
<u>Oct.</u> 16		196.7	1.4	1.46

* Unpublished data of Gary H. Heichel, Cornell University.

Table 3.--Levels at which carbon dioxide and supporting micrometeorological data were taken at Ellis Hollow, Ithaca, N. Y., 1962-1964.

Type data	Date	Height	Depth
		(cm)	(cm)
	<u>1962</u>		
<u>Carbon dioxide</u>	July 1 - 13	50	
	July 13 - Aug. 1	100	
	Aug. 1 - Aug. 7	150	
	Aug. 7 - Oct. 16	200	
	Oct. 28 - Dec. 20	200	
<u>Air temperature</u>	Aug. 22 - Oct. 2	220	
	Oct. 31 - Dec. 20	160	
<u>Anemometer</u>	Sept. 11 - Oct. 16	490	
	Oct. 29 - Dec. 20	395	
<u>Soil temperature</u>	Aug. 24 - Oct. 2		2
	Oct. 31 - Dec. 20		5
	<u>1964</u>		
<u>Carbon dioxide</u>	Jan. 24 - Mar. 9	275	
	May 28 - June 30	275	
<u>Anemometer</u>	Jan. 24 - Mar. 9	325	
	May 28 - June 30	320	

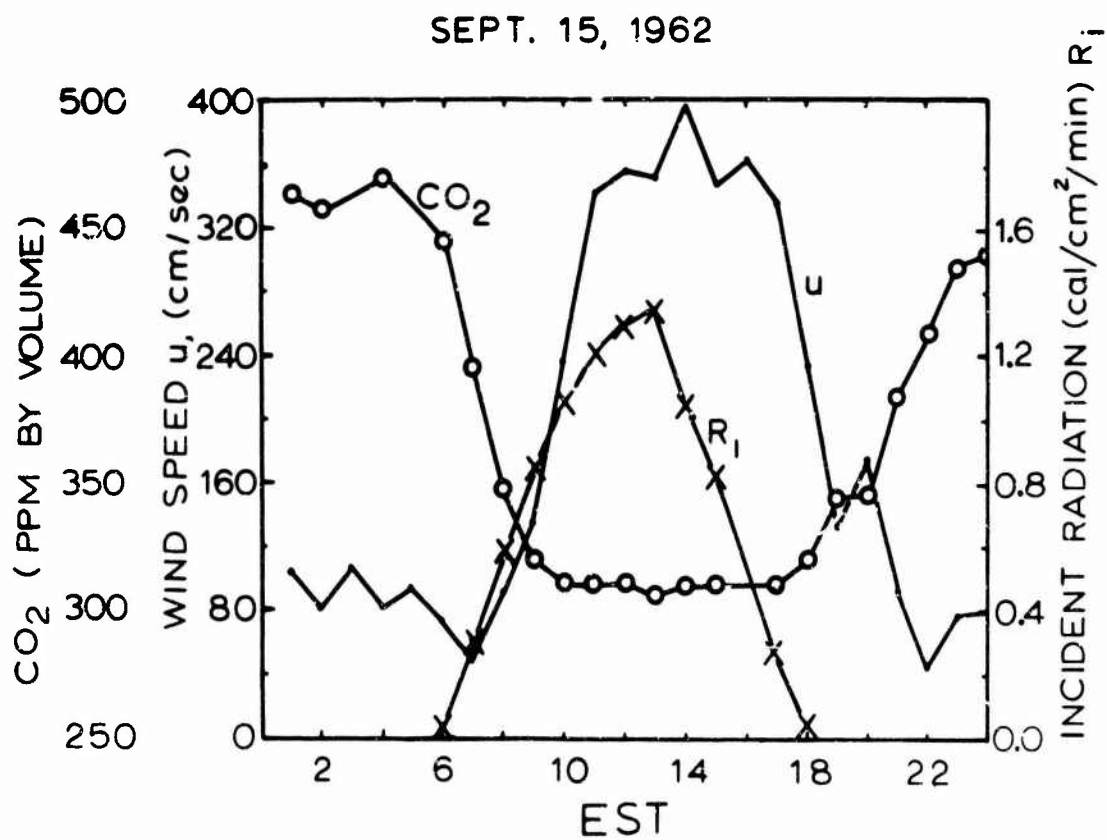


Fig. 1. Diurnal course of CO₂ concentration, windspeed (u) and incident short wave radiation (R_i) near the top of a fully-grown crop of corn at Ellis Hollow (Ithaca, N. Y.), which is representative of a well-illuminated day during the active growing season.

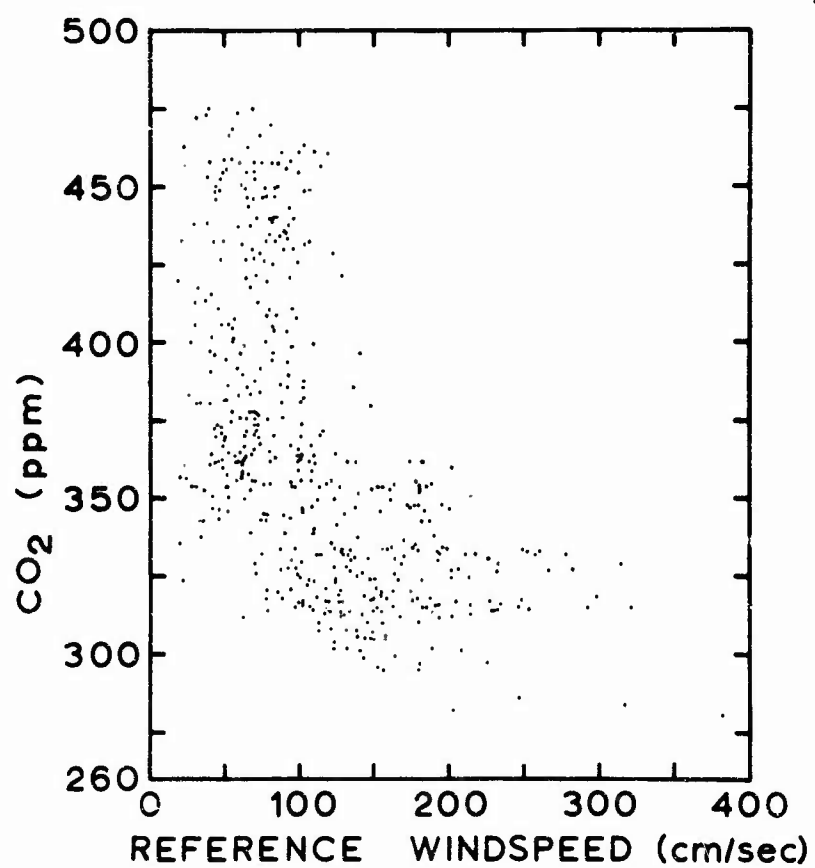


Fig. 2. Nocturnal (2000 to 0400 EST) CO₂ vs. windspeed data near the top of a fully-grown crop of corn at Ellis Hollow (Ithaca, N. Y.) from September 11 to September 30, 1962.

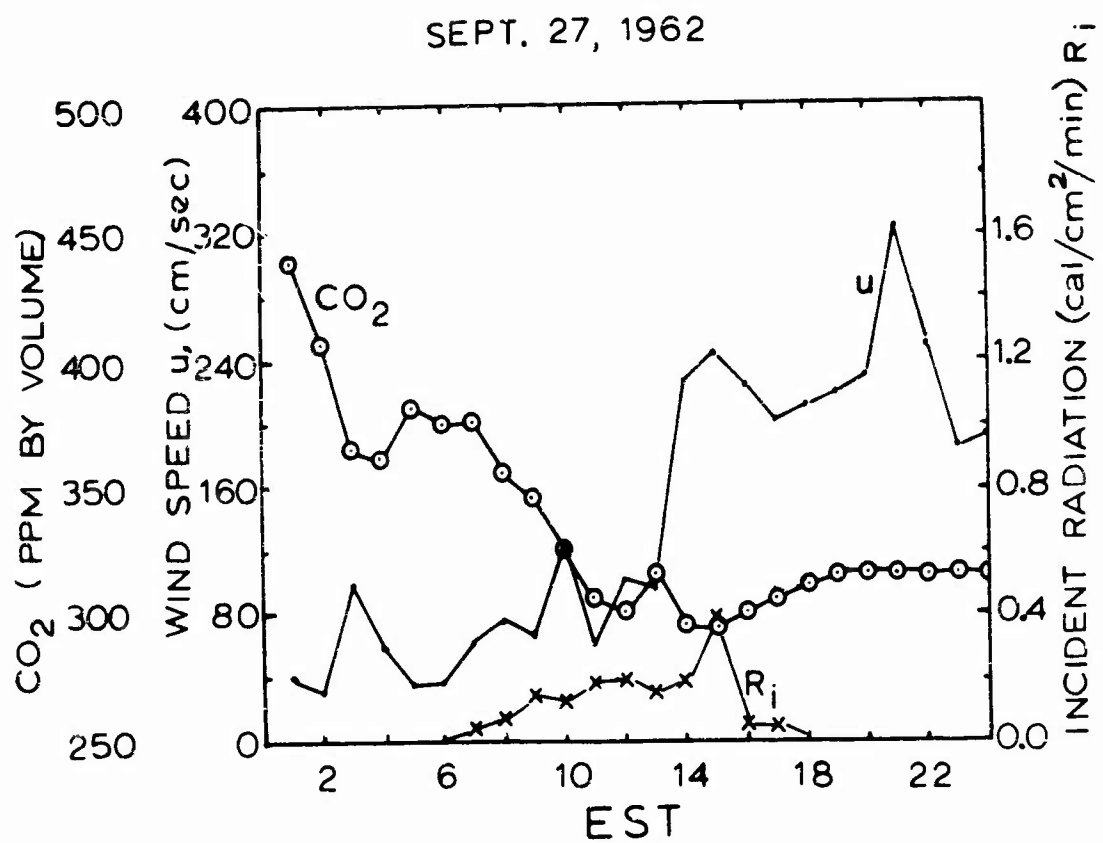


Fig. 3. Diurnal course of CO₂ concentration, windspeed (*u*), and incident short wave radiation (*R_i*) near the top of a fully grown crop of corn at Ellis Hollow (Ithaca, N. Y.) illustrating the effect of nocturnal windspeeds on the build-up of CO₂.

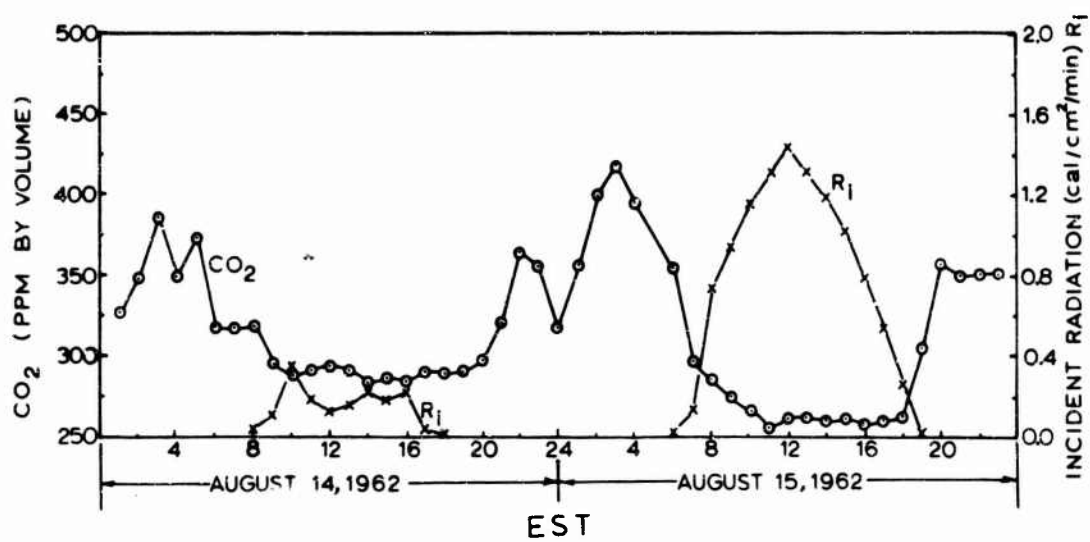


Fig. 4. Diurnal course of CO₂ concentration and incident short wave radiation (R_i) over two consecutive days near the top of an actively growing crop of corn at Ellis Hollow (Ithaca, N. Y.) illustrating the effect of low-light vs. high-light on the daytime average CO₂ concentration.

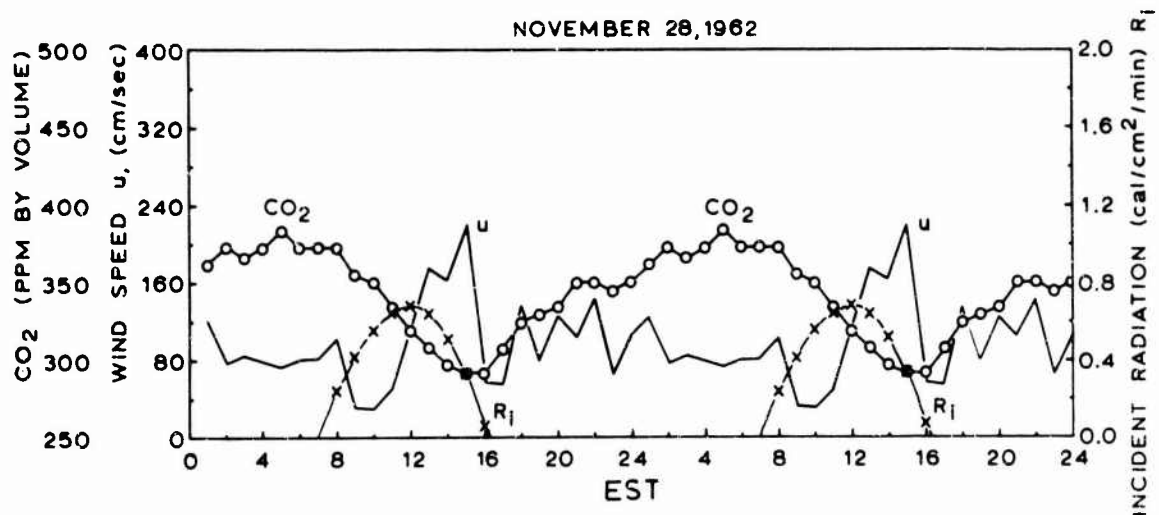


Fig. 5. Diurnal course (repeated) of CO₂ concentration, windspeed (u), and Incident shortwave radiation (R_i) at Ellis Hollow (Ithaca, N. Y.) over a cornfield after complete harvest of the above-ground parts for silage, illustrating the slow draw-down of nocturnal CO₂ concentration during the early part of illuminated day, which was a commonly-observed feature after the harvest and before snow cover.

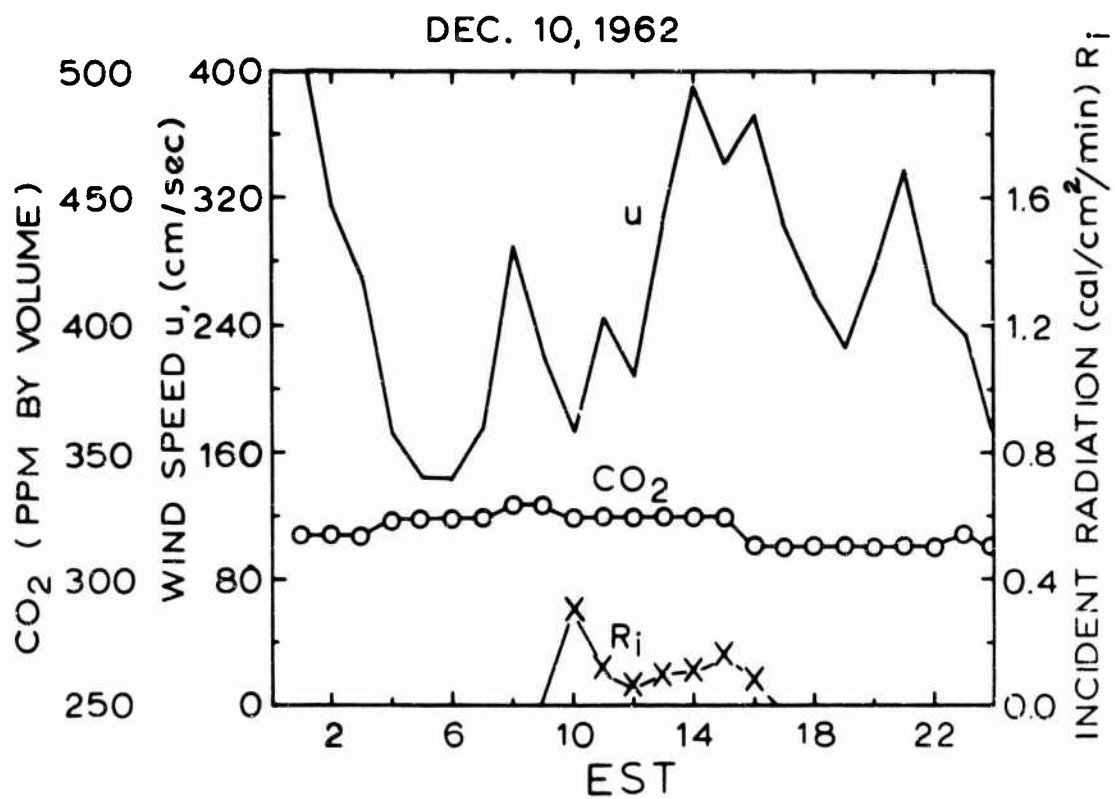


Fig. 6. Diurnal course of CO₂ concentration, windspeed (*u*) and incident shortwave radiation (*R_i*) at Ellis Hollow (Ithaca, N. Y.) over a cornfield after complete harvest of above ground parts and after a snow cover had formed, which illustrates the typically small diurnal CO₂ variations.

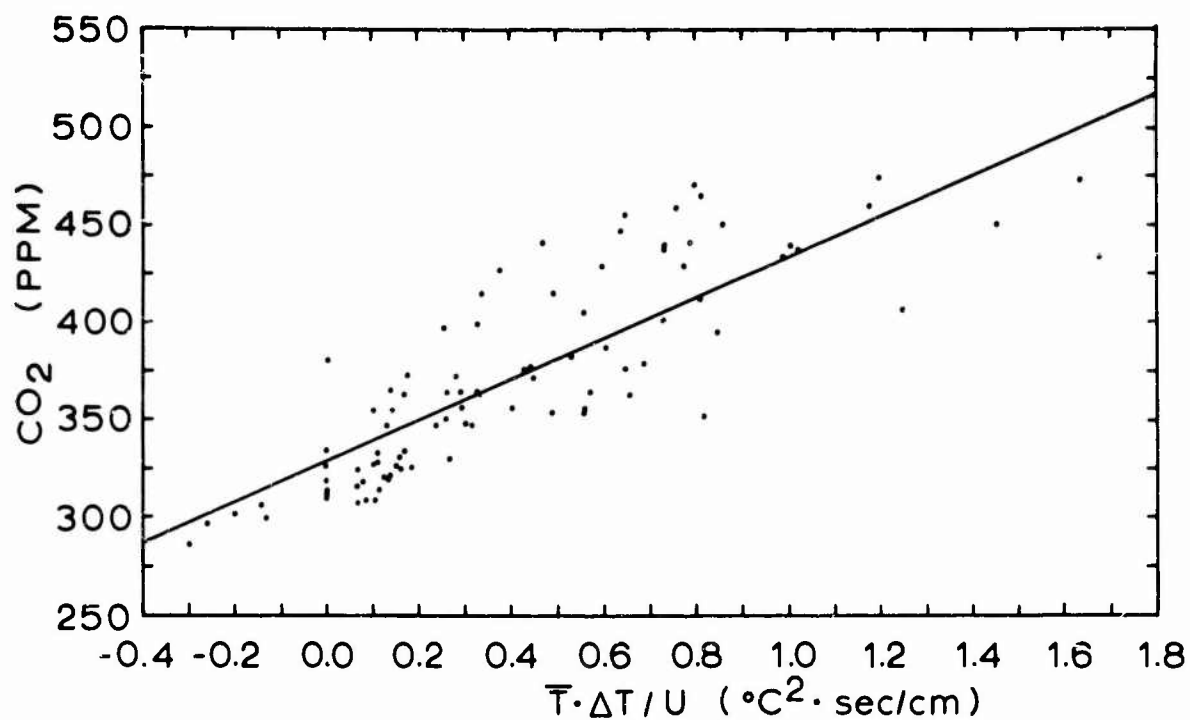


Fig. 7. Nocturnal (2000 to 0400 EST) CO₂ concentration from September 11 to September 30, 1962 near the top of a fully-grown crop of corn at Ellis Hollow (Ithaca, N. Y.) as a function of the parameter $\bar{T} \cdot \Delta T / u$. \bar{T} is the average of soil temperature and air temperature, ΔT is soil temperature minus air temperature, and u is the reference windspeed. See the text for a fuller explanation.

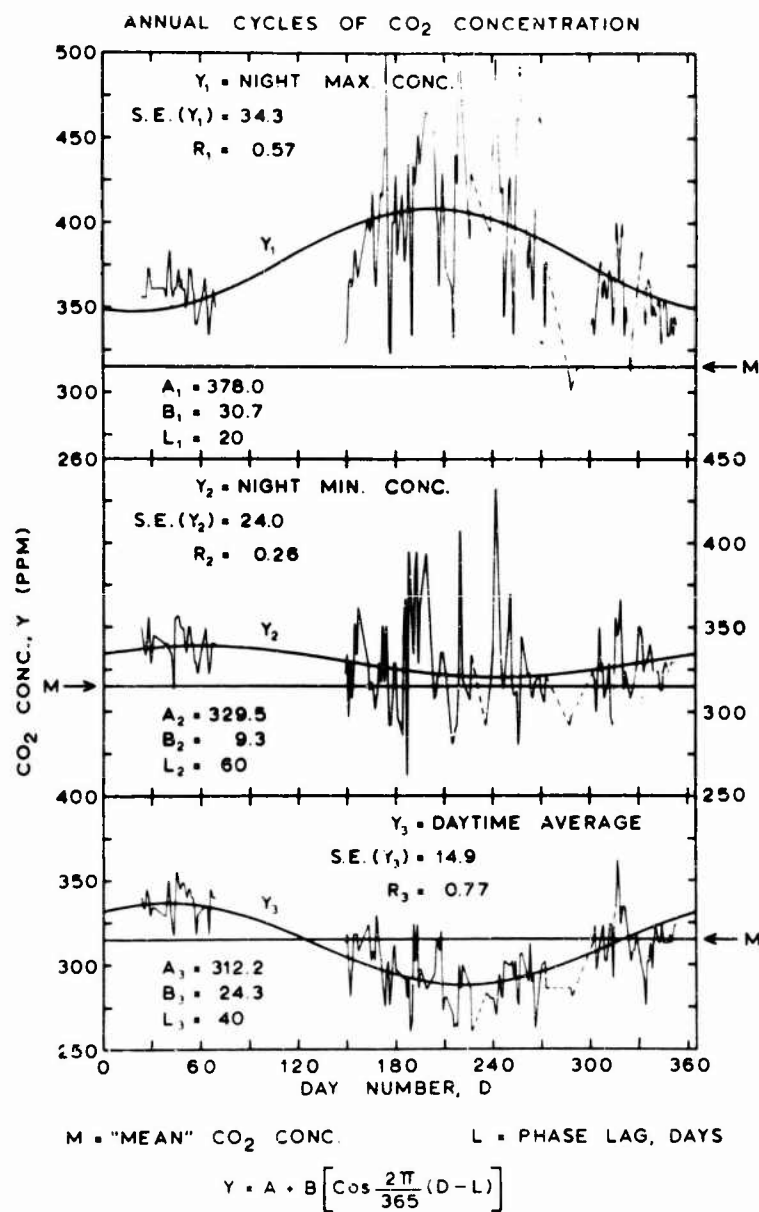


Fig. 8. Annual course of CO₂ concentration as determined from data obtained from July to December 1962 and from January to June 1964 at Ellis Hollow (Ithaca, N. Y.). Plotted are daytime average, nighttime (2000 to 0400) minimum and nighttime (2000 to 0400) maximum concentrations of CO₂. Also included are sinusoidal curves fitting these three annual variations, statistical parameters associated with these curves, and the assumed mean annual CO₂ concentration (about 315 ppm).

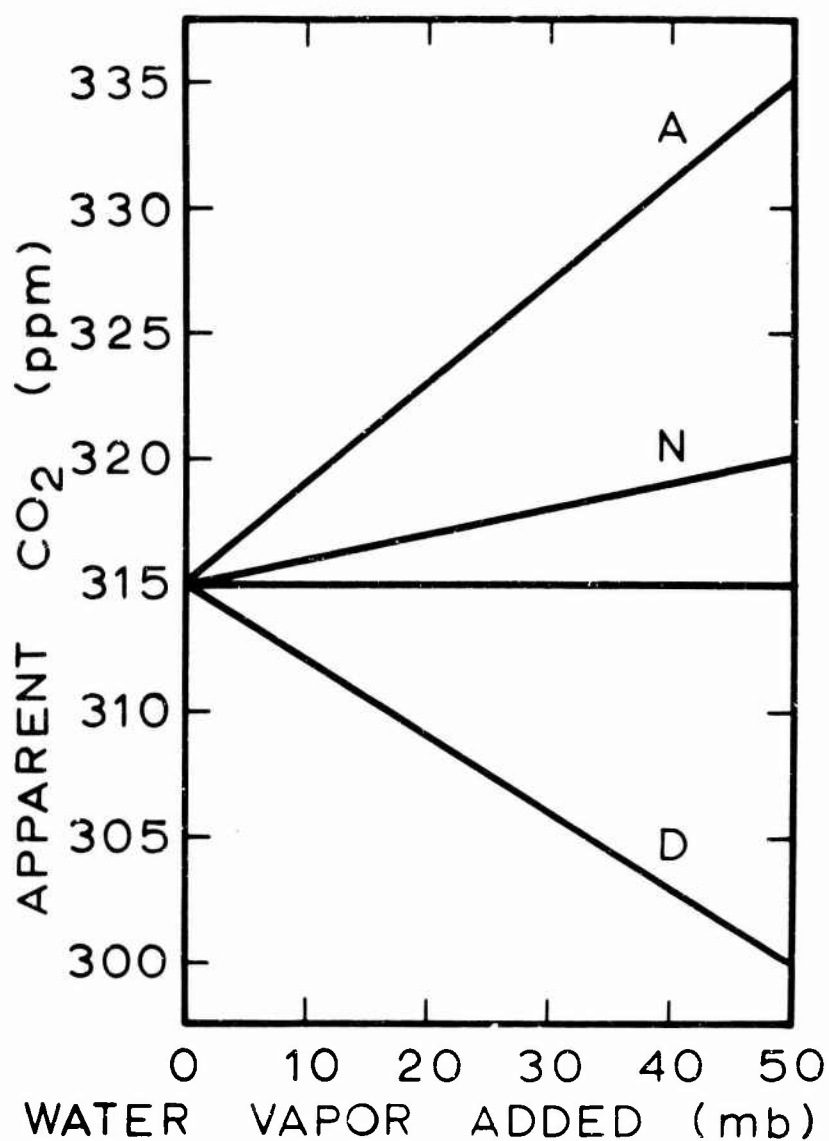


Fig. 9. Analysis of the Influence on the Infrared CO₂ analyzer of adding water vapor to nitrogen gas containing 315 ppm CO₂. N Indicates the measured net effect, D indicates the calculated dilution effect, and A indicates the apparent absorption effect of the added water vapor. See text for a fuller explanation.

APPENDIX I

This appendix contains the carbon dioxide (CO_2) concentration data monitored in 1962 and 1964 at Ellis Hollow, near Ithaca, N. Y. Also included when available are incident short wave radiation (R_i) of 0.3 to 3.0 microns wavelength, net radiation (R_n), air temperature (T_a), soil temperature (T_s), and horizontal windspeed (wind).

The CO_2 , short wave radiation, net radiation and windspeed data are given at either 15-minute or one hour intervals. The 15-minute interval CO_2 , short wave radiation and net radiation data were obtained using a paper tape data logging system. The values reported here from the data logging system are instantaneous values logged at quarter-hour intervals. These three sets of data which are reported at hourly intervals, plus the soil temperature and air temperature data, were obtained by a multiple-point strip-chart recorder. The values reported are usually instantaneous values printed at hourly intervals. However, on days of intermittent clouds, the short wave radiation and net radiation data were visually averaged for a one-hour interval centered about the indicated hour for which the data are reported. On intermittently cloudy days, the smoothed data are actually more representative for the radiation values than are the instantaneous data. Visual averaging of the CO_2 and temperature data was not usually done because they varied more smoothly with time.

The windspeed data, whether reported at 15-minute or one-hour intervals are all 15-minute averages. The windspeed data were obtained by photographing the electromechanical counter register which totalized the anemometer cup rotations. This was done at approximately 15-minute intervals, but since the camera timer setting generally was only within 15 minutes \pm 10 seconds, the actual interval would "drift" to earlier or later times. However, the data were reported so that in general the windspeeds correspond to the 15-minute period prior to the reporting time. This is the best way to report the windspeed values, since the immediate windspeed history would affect CO_2 concentrations more than what the windspeed was at the exact time the CO_2 data were reported.

The heights at which the various data were obtained are given in Table 3. Also some of the data were summarized in Table 4 for multiple regression analyses reported in Appendix II. In addition, some hourly windspeed averages were used in the multiple regression analyses which are not included here.

CO₂ content and related data

Day 184
July 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	418	-
0200	412	-
0300	412	-
0400	401	-
0500	401	0.04
0600	356	.12
0700	297	.60
0800	292	.80
0900	281	1.10
1000	292	1.37
1100	297	1.48
1200	292	1.50
1300	286	1.39
1400	286	1.28
1500	292	1.11
1600	292	.91
1700	292	.66
1800	292	.37
1900	286	.12
2000	286	-
2100	276	-
2200	286	-
2300	318	-
2400	340	-

CO₂ content and related data

Day 185
July 4, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0100	345	-
0200	345	-
0300	356	-
0400	384	-
0500	378	0.04
0600	340	.26
0700	308	.52
0800	297	.80
0900	297	1.04
1000	297	1.24
1100	297	1.36
1200	292	1.40
1300	292	1.35
1400)	Missing	
1500)		
1600	292	.87
1700	292	.62
1800	286	.36
1900	286	.12
2000	313	-
2100	340	-
2200	345	-
2300	356	-
2400	367	-

CO₂ content and related data

Day 186
July 5, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0100	367	-
0200	367	-
0300	367	-
0400	367	-
0500	378	0.03
0600	329	.21
0700	292	.46
0800	292	.74
0900	292	1.02
1000	286	1.28
1100	292	1.32
1200	292	1.20
1300	292	1.08
1400	297	1.16
1500	297	.96
1600	297	.60
1700	286	.48
1800	281	.26
1900	276	.10
2000	292	-
2100	313	-
2200	334	-
2300	367	-
2400	367	-

CO₂ content and related data

Day 187
July 6, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	362	-
0200	378	-
0300	378	-
0400	378	-
0500	378	0.03
0600	345	.18
0700	302	.43
0800	297	.67
0900	286	.92
1000	276	1.12
1100	281	1.28
1200	281	1.32
1300	286	1.28
1400	286	1.18
1500	286	1.04
1600	286	.88
1700	281	.55
1800	281	.29
1900	286	.07
2000	313	-
2100	356	-
2200	384	-
2300	390	-
2400	395	-

CO₂ content and related data

Day 188
July 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	401	-
0200	407	-
0300	395	-
0400	435	-
0500	429	0.03
0600	356	.25
0700	313	.52
0800	302	.76
0900	297	1.00
1000	292	1.20
1100	292	1.34
1200	292	1.38
1300	286	1.36
1400	292	1.25
1500	292	1.07
1600	292	.86
1700	292	.56
1800	286	.36
1900	286	.12
2000	302	-
2100	334	-
2200	373	-
2300	395	-
2400	395	-

CO₂ content and related data

Day 189
July 8, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0100	378	-
0200	384	-
0300	390	-
0400	395	-
0500	401	0.03
0600	362	.22
0700	313	.47
0800	302	.70
0900	297	.94
1000	302	1.14
1100	302	1.29
1200	297	1.32
1300	292	1.30
1400	286	1.19
1500	281	1.06
1600	271	.79
1700	260	.40
1800	250	.25
1900	255	.36
2000	292	-
2100	324	-
2200	340	-
2300	318	-
2400	255	-

CO₂ content and related data

Day 190
July 9, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	255	-
0200	260	-
0300	266	-
0400	276	-
0500	276	-
0600	292	0.07
0700	276	.34
0800	271	.68
0900	266	.80
1000	266	.80
1100	271	.52
1200	271	1.00
1300	276	.80
1400	276	.48
1500	286	.13
1600	292	.34
1700	292	.16
1800	297	.03
1900	302	.01
2000	302	-
2100	308	-
2200	313	-
2300	318	-
2400	324	-

CO₂ content and related data

Day 191
July 10, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	334	-
0200	362	-
0300	367	-
0400	435	-
0500	435	0.02
0600	367	.24
0700	340	.52
0800	334	.79
0900	329	1.06
1000	324	1.28
1100	324	1.40
1200	318	1.43
1300	318	1.44
1400	324	1.29
1500	324	1.13
1600	329	.90
1700	334	.60
1800	324	.28
1900	324	.11
2000	340	-
2100	390	-
2200	407	-
2300	418	-
2400	418	-

CO₂ content and related data

Day 192
July 11, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0100	412	-
0200	423	-
0300	418	-
0400	412	-
0500	412	0.01
0600	395	.10
0700	367	.15
0800	351	.52
0900	345	.48
1000	340	.53
1100	334	1.10
1200	329	.72
1300	329	.70
1400	324	1.29
1500	318	.50
1600	313	.40
1700	302	.32
1800	302	.28
1900	313	.05
2000	340	-
2100	362	-
2200	407	-
2300	384	-
2400	407	-

CO₂ content and related data

Day 193
July 12, 1962

Time (EST)	CO ₂ (ppm)	Ri (ly/min)
0100	398	-
0200	410	-
0300	429	-
0400	407	-
0500	401	0.01
0600	390	.07
0700	351	.12
0800	334	.16
0900	329	.24
1000	334	.14
1100	329	.24
1200	329	.54
1300	329	.65
1400	324	.60
1500	324	.19
1600	324	.11
1700	329	.09
1800	329	.10
1900	345	-
2000	367	-
2100	Missing	-
2200	Missing	-
2300	435	-
2400	418	-

CO₂ content and related data

Day 194
July 13, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	447	-
0200	453	-
0300	447	-
0400	329	-
0500	367	-
0600	334	0.02
0700	302	.23
0800	297	.49
0900	302	.78
1000	313	1.02
1100	308	1.24
1200	302	1.37
1300	297	1.46
1400	292	1.41
1500	286	1.30
1600	286	.75
1700	286	.88
1800	286	.61
1900	286	.34
2000	324	.04
2100	367	-
2200	390	-
2300	390	-
2400	401	-

CO₂ content and related data

Day 195
July 14, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0100	407	-
0200	418	-
0300	418	-
0400	424	-
0500	435	0.03
0600	390	.11
0700	329	.49
0800	308	.78
0900	302	1.02
1000	302	1.00
1100	missing	
1200		.64
1300		1.00
1400	302	1.00
1500	297	.96
1600	297	.86
1700	297	.44
1800	297	.30
1900	302	.10
2000	329	-
2100	362	-
2200	390	-
2300	401	-
2400	418	-

CO₂ content and related data

Day 199
July 18, 1962

Time (EST)	CO ₂ (ppm)	Ri (ly/min)
0015	338.7	-
0030	433.4	-
0045	418.5	-
0100	426.5	-
0115	421.3	-
0130	456.5	-
0145	447.1	-
0200	439.4	-
0215	461.2	-
2030	453.8	-
0245	465.5	-
0300	464.7	-
0315	465.5	-
0330	432.8	-
0345	415.2	-
0400	394.8	-
0415	395.6	-
0430	444.4	-
0445	447.9	-
0500	432.1	-
0515	366.5	0.018
0530	409.2	.026
0545	424.8	.041
0600	343.1	.046
0615	332.2	.086
0630	333.6	.088
0645	328.2	.174
0700	322.1	.246
0715	318.2	.236
0730	312.5	.318
0745	311.1	.521
0800	306.1	.592
0815	305.0	.648
0830	302.6	.462
0845	301.8	.381
0900	298.0	.893
0915	296.6	.838
0930	298.3	.818
0945	295.9	1.221
1000	292.3	1.201
1015	289.5	1.045
1030	289.9	.853
1045	289.2	.925
1100	287.1	1.366
1115	289.5	1.044
1130	289.2	1.449
1145	288.8	.538

(cont.)

Day 199
July 18, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
1200	294.1	0.129
1215	296.2	.182
1230	296.2	.130
1245	294.1	.118
1300	291.3	.214
1315	290.9	.461
1330	291.6	.754
1345	292.3	1.286
1400	285.3	.894
1415	289.2	.882
1430	289.9	.713
1445	288.1	.630
1500	290.1	.500
1515	289.0	.408
1530	288.5	.404
1545	288.8	.602
1600	285.3	1.074
1615	286.4	.826
1630	286.4	.744
1645	282.2	.700
1700	285.0	.598
1715	287.1	.517
1730	285.3	.446
1745	283.9	.413
1800	283.2	.285
1815	283.2	.233
1830	284.6	.114
1845	292.3	.053
1900	309.6	.029
1915	330.4	.025
1930	330.4	.018
1945	335.4	.010
2000	343.8	-
2015	371.3	-
2030	381.7	-
2045	378.0	-
2100	381.7	-
2115	391.1	-
2130	397.8	-
2145	398.2	-
2200	398.2	-
2215	402.0	-
2230	405.4	-
2245	407.6	-
2300	411.4	-
2315	414.1	-
2330	416.0	-
2345	417.9	-
2400	420.2	-

CO₂ content and related data

Day 204
July 23, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0015	400.1	-
0030	383.2	-
0045	423.1	-
0100	427.5	-
0115	435.5	-
0130	434.0	-
0145	428.0	-
0200	420.8	-
0215	418.2	-
0230	399.7	-
0245	443.3	-
0300	453.8	-
0315	454.5	-
0330	436.7	-
0345	453.4	-
0400	444.8	-
0415	430.5	-
0430	391.8	-
0445	384.5	0.006
0500	438.2	.010
0515	413.3	.018
0530	351.1	.021
0545	340.9	.034
0600	336.5	.042
0615	337.6	.029
0630	339.8	.040
0645	331.1	.136
0700	328.6	.220
0715	324.6	.297
0730	322.5	.306
0745	321.1	.377
0800	320.7	.314
0815	321.4	.254
0830	320.7	.298
0845	316.8	.413
0900	318.5	.390
0915	317.1	.460
0930	314.6	.598
0945	317.1	.345
1000	312.1	.345
1015	315.0	.121
1030	317.5	.137
1045	310.7	.217
1100	305.0	.301
1115	308.6	.252
1130	312.5	.157
1145	310.7	.381

(cont.)

Day 204
July 23, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
1200	306.4	0.450
1215	308.9	.408
1230	305.9	.280
1245	309.1	.192
1300	310.7	.178
1315	311.8	.187
1330	310.4	.204
1345	306.1	.305
1400	296.9	.634
1415	296.2	.804
1430	296.6	.830
1445	297.6	.584
1500	295.2	1.044
1515	293.0	.909
1530	293.4	.770
1545	293.7	.661
1600	295.9	.361
1615	297.3	.209
1630	303.6	.022
1645	307.5	.025
1700	306.8	.020
1715	307.9	.009
1730	308.6	.029
1745	310.0	.033
1800	311.8	.022
1815	312.5	.044
1830	312.5	.058
1845	315.3	.050
1900	319.6	.057
1915	320.7	.021
1930	323.9	.008
1945	327.9	-
2000	326.8	-
2015	339.1	-
2030	340.2	-
2045	354.4	-
2100	350.0	-
2115	350.0	-
2130	358.0	-
2145	359.1	-
2200	362.8	-
2215	361.0	-
2230	357.3	-
2245	362.4	-
2300	368.9	-
2315	363.9	-
2330	354.0	-
2345	327.1	-
2400	307.0	-

CO₂ content and related data

Day 205
July 24, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0015	306.7	-
0030	305.7	-
0045	306.4	-
0100	309.3	-
0115	311.1	-
0130	311.8	-
0145	313.6	-
0200	314.6	-
0215	315.3	-
0230	317.8	-
0245	318.2	-
0300	318.2	-
0315	320.7	-
0330	320.7	-
0345	319.6	-
0400	321.1	-
0415	321.1	-
0430	321.9	-
0445	missing	-
0500	327.2	-
0515	328.6	-
0530	330.0	0.006
0545	331.1	.009
0600	331.1	.017
0615	331.1	.021
0630	330.0	.024
0645	330.0	.046
0700	329.3	.032
0715	328.6	.033
0730	329.3	.040
0745	331.1	.069
0800	328.6	.124
0815	326.8	.234
0830	321.1	.448
0845	320.3	.380
0900	319.3	.616
0915	316.8	.474
0930	313.4	.944
0945	315.0	.733
1000	315.5	.872
1015	313.1	1.105
1030	310.2	.958
1045	310.4	1.498
1100	310.0	.941
1115	308.9	1.409
1130	311.1	1.488
1145	311.4	1.354

(cont.)

Day 205
July 24, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
1200	312.1	1.497
1215	313.9	1.428
1230	315.3	1.417
1245	314.6	1.409
1300	316.4	1.392
1315	318.5	1.356
1330	317.5	1.352
1345	319.6	1.321
1400	318.2	1.296
1415	316.4	1.257
1430	319.3	1.221
1445	318.9	1.178
1500	318.5	1.130
1515	317.5	1.081
1530	316.0	1.030
1545	317.7	.962
1600	318.5	.909
1615	319.3	.845
1630	319.3	.774
1645	319.3	.705
1700	320.0	.644
1715	320.0	.568
1730	320.0	.504
1745	321.1	.432
1800	321.4	.356
1815	321.4	.282
1830	321.1	.221
1845	321.4	.156
1900	323.2	.097
1915	339.8	.048
1930	360.2	.014
1945	364.7	-
2000	366.1	-
2015	382.1	-
2030	383.4	-
2045	396.3	-
2100	391.2	-
2115	389.6	-
2130	397.4	-
2145	398.6	-
2200	402.4	-
2215	376.1	-
2230	392.2	-
2245	392.2	-
2300	379.5	-
2315	394.6	-
2330	395.6	-
2345	408.0	-
2400	407.6	-

CO₂ content and related dataDay 206
July 25, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	402.7	-	-
0030	390.7	-	-
0045	394.1	-	-
0100	400.5	-	-
0115	411.1	-	-
0130	400.3	-	-
0145	385.1	-	-
0200	370.2	-	-
0215	358.4	-	-
0230	358.8	-	-
0245	359.0	-	-
0300	356.6	-	-
0315	358.4	-	-
0330	359.0	-	-
0345	361.0	-	-
0400	358.4	-	-
0415	358.8	-	-
0430	356.9	-	-
0445	355.8	0.008	-
0500	357.3	.016	-
0515	358.8	.022	-
0530	361.7	.044	-
0545	356.2	.109	-
0600	354.4	.186	-
0615	350.0	.245	-
0630	347.8	.313	-
0645	343.4	.380	-
0700	341.4	.438	-
0715	339.5	.516	-
0730	337.1	.602	-
0745	333.5	.631	-
0800	330.6	.710	-
0815	329.5	.787	-
0830	328.6	.862	-
0845	327.5	.953	-
0900	327.2	.938	-
0915	329.3	.821	-
0930	326.8	.902	-
0945	326.8	.777	-
1000	323.9	.846	-
1015	320.7	1.093	-
1030	322.5	1.246	-
1045	322.8	1.284	-
1100	324.6	1.084	0.378
1115	323.6	1.330	1.105
1130	322.1	1.098	.916
1145	322.5	.968	.608

(cont.)

Day 206
July 25, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	319.6	1.265	0.854
1215	319.6	1.309	.936
1230	318.2	1.336	1.072
1245	319.3	1.380	1.077
1300	319.3	1.366	1.062
1315	318.5	1.110	.868
1330	317.8	.484	.284
1345	317.8	1.350	1.092
1400	314.3	1.173	.941
1415	313.6	1.212	.898
1430	313.2	1.018	.678
1445	312.8	.829	.448
1500	316.0	.912	.600
1515	311.1	.845	.540
1530	315.0	.328	.126
1545	313.2	.365	.158
1600	313.6	.394	.208
1615	313.2	.292	.104
1630	314.6	.250	.090
1645	312.8	.465	.284
1700	310.4	.522	.265
1715	310.7	.460	.214
1730	310.7	.432	.176
1745	311.8	.236	.017
1800	313.4	.146	-0.042
1815	315.8	.100	-.077
1830	316.0	.110	-.070
1845	313.9	.051	-.135
1900	314.3	.036	-.134
1915	315.0	.022	-.136
1930	315.0	.013	-.137
1945	316.0	.006	-.133
2000	319.	.006	-.128
2015	319.6	-	-.134
2030	322.1	-	-.128
2045	324.3	-	-.128
2100	322.8	-	-.129
2115	323.2	-	-.128
2130	322.1	-	-.130
2145	322.8	-	-.125
2200	323.2	-	-.124
2215	323.6	-	-.117
2230	325.0	-	-.106
2245	326.1	-	-.100
2300	324.3	-	-.092
2315	322.8	-	-.080
2330	322.1	-	-.070
2345	321.4	-	-.220
2400	325.0	-	-

CO₂ content and related dataDay 207
July 26, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	321.4	-	-
0030	321.4	-	-
0045	324.6	-	-
0100	327.2	-	-
0115	332.2	-	-
0130	334.4	-	-
0145	336.5	-	-
0200	331.1	-	-
0215	334.7	-	-
0230	342.7	-	-
0245	342.3	-	-
0300	344.5	-	-
0315	342.7	-	-
0330	342.0	-	-
0345	347.4	-	-
0400	343.1	-	-
0415	363.2	-	-
0430	361.7	-	-
0445	360.3	-	-
0500	360.1	0.006	-
0515	351.8	.009	-
0530	345.6	.025	-
0545	344.9	.056	-
0600	339.1	.093	-
0615	327.2	.216	-0.069
0630	319.3	.322	.053
0645	313.6	.382	.134
0700	316.0	.362	.142
0715	313.5	.317	.180
0730	316.0	.576	.297
0745	315.0	.673	.394
0800	315.0	.813	.573
0815	315.0	.676	.480
0830	313.2	.701	.502
0845	313.2	.588	.324
0900	313.3	1.037	.821
0915	310.7	1.073	.861
0930	310.4	1.177	.941
0945	310.0	.806	.406
1000	308.2	1.138	1.022
1015	309.3	1.014	.852
1030	312.7	.457	.220
1045	309.3	.544	.450
1100	312.1	.320	.222
1115	311.8	.298	.192
1130	311.8	.493	.389
1145	310.0	.569	.469

(cont.)

Day 207
July 26, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	306.8	0.648	0.528
1215	307.9	.657	.701
1230	309.3	.581	.474
1245	306.4	1.404	1.313
1300	308.6	.610	.464
1315	307.9	.658	.686
1330	311.1	.361	.254
1345	308.9	.436	.316
1400	310.0	.392	.276
1415	308.9	.501	.373
1430	308.6	.448	.333
1445	309.3	.438	.313
1500	310.2	.540	.390
1515	310.2	.300	.158
1530	308.6	.522	.324
1545	311.0	.412	.257
1600	307.5	.432	.306
1615	310.4	.642	.420
1630	310.4	.621	.416
1645	315.3	.160	.061
1700	317.8	.181	.078
1715	317.5	.125	.030
1730	317.8	.189	.088
1745	316.4	.124	.017
1800	319.6	.046	-0.028
1815	319.6	.056	-.013
1830	320.7	.026	-.040
1845	320.3	.041	-.040
1900	321.1	.041	-.038
1915	321.8	.017	-.061
1930	321.4	.006	-.052
1945	322.8	-	-.064
2000	324.3	-	-.068
2015	327.5	-	-.070
2030	333.3	-	-.065
2045	332.9	-	-.052
2100	329.0	-	-.053
2115	327.5	-	-.077
2130	327.3	-	-.160
2145	329.0	-	-.089
2200	330.8	-	-.052
2215	330.8	-	-.057
2230	330.0	-	-.056
2245	329.0	-	-.060
2300	331.1	-	-.068
2315	330.0	-	-.069
2330	330.0	-	-.084
2345	332.9	-	-.106
2400	332.2	-	-.160

Day 208
July 27, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	322.8	1.266	1.208
1215	321.4	.972	.690
1230	323.0	1.314	1.462
1245	322.2	.649	.572
1300	321.4	1.272	1.114
1315	320.1	1.255	1.139
1330	321.4	1.001	.684
1345	321.8	1.505	1.381
1400	320.0	.897	.906
1415	321.4	1.108	1.240
1430	319.6	1.150	.662
1445	322.1	1.289	1.025
1500	321.1	.873	.880
1515	320.7	.610	.492
1530	319.3	1.086	.813
1545	318.5	.852	.453
1600	318.5	.696	.668
1615	320.7	.520	.310
1630	318.2	.725	.328
1645	315.7	.676	.441
1700	315.7	.457	.149
1715	319.3	.472	.260
1730	314.6	.442	.228
1745	316.4	.485	.244
1800	317.5	.286	.057
1815	319.3	.236	.038
1830	320.3	.192	.002
1845	320.3	.165	-.062
1900	316.8	.116	-.073
1915	320.0	.057	-.121
1930	321.1	.021	-.150
1945	323.6	-	-.164
2000	326.1	-	-.162
2015	327.9	-	-.162
2030	330.8	-	-.141
2045	338.0	-	-.140
2100	356.9	-	-.144
2115	379.5	-	-.146
2130	370.9	-	-.144
2145	389.9	-	-.146
2200	402.4	-	-.138
2215	397.1	-	-.142
2230	406.5	-	-.145
2245	409.5	-	-.141
2300	387.3	-	-.146
2315	397.4	-	-.143
2330	389.6	-	-.132
2345	351.8	-	-.133
2400	342.5	-	-.130

CO₂ content and related dataDay 208
July 27, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	331.5	-	-0.129
0030	338.7	-	-.134
0045	346.3	-	-.060
0100	351.8	-	-.052
0115	347.4	-	-.057
0130	342.0	-	-.072
0145	341.4	-	-.126
0200	343.1	-	-.152
0215	345.5	-	-.141
0230	344.7	-	-.144
0245	344.7	-	-.140
0300	342.0	-	-.134
0315	350.7	-	-.112
0330	358.4	-	-.077
0345	345.6	-	-.040
0400	339.8	-	-.041
0415	334.9	-	-.050
0430	334.4	-	-.046
0445	335.1	-	-.053
0500	335.1	-	-.133
0515	337.6	0.006	-.037
0530	336.5	.017	-.030
0545	336.9	.018	-.038
0600	335.8	.021	-.049
0615	333.6	.020	-.029
0630	333.6	.021	-.214
0645	333.3	.028	-.045
0700	332.2	.049	.004
0715	332.2	.042	0.000
0730	331.8	.046	0.000
0745	331.8	.068	.016
0800	332.9	.108	.058
0815	334.7	.136	.081
0830	335.1	.150	.088
0845	332.6	.208	.138
0900	331.5	.225	.153
0915	330.4	.276	.205
0930	325.7	.408	.300
0945	326.8	.932	.890
1000	323.9	.773	.586
1015	323.9	.722	.602
1030	325.0	.845	.678
1045	321.4	.672	.842
1100	324.3	1.112	1.170
1115	326.1	1.349	1.230
1130	325.0	.721	.656
1145	320.7	1.212	1.229

(cont.)

CO₂ content and related dataDay 209
July 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	339.2	-	-0.135
0030	357.7	-	-.128
0045	369.1	-	-.129
0100	386.8	-	-.130
0115	381.0	-	-.129
0130	374.5	-	-.138
0145	382.5	-	-.132
0200	386.2	-	-.129
0215	404.2	-	-.132
0230	404.2	-	-.132
0245	403.9	-	-.130
0300	400.1	-	-.132
0315	398.6	-	-.136
0330	409.4	-	-.134
0345	422.9	-	-.133
0400	415.6	-	-.138
0415	425.2	-	-.130
0430	421.3	-	-.132
0445	420.2	0.006	-.136
0500	430.5	.014	-.126
0515	425.9	.028	-.116
0530	419.1	.038	-.108
0545	406.6	.180	-
0600	395.8	.206	.010
0615	361.7	.268	.076
0630	342.5	.322	.126
0645	337.1	.396	.178
0700	333.3	.456	.232
0715	330.0	.520	.289
0730	328.2	.578	.342
0745	324.3	.634	.409
0800	321.4	.745	.524
0815	317.5	.828	.577
0830	313.6	.849	.588
0845	309.6	.825	.637
0900	314.6	.917	.677
0915	310.0	1.048	.802
0930	311.8	1.018	.800
0945	308.6	1.042	.815
1000	305.9	.968	.756
1015	302.2	1.125	.840
1030	307.5	.336	.154
1045	302.2	.577	.419
1100	298.0	.857	.721
1115	297.6	1.368	1.169
1130	294.4	1.252	1.082
1145	295.2	1.262	1.153

(cont.)

Day 209
July 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	294.4	1.369	1.020
1215	293.7	1.077	.692
1230	292.3	.549	.357
1245	289.5	1.128	.908
1300	292.7	1.005	.786
1315	287.4	.548	.353
1330	286.4	.617	.430
1345	280.5	.590	.414
1400	276.6	.992	.732
1415	281.2	.826	.612
1430	281.9	1.097	.886
1445	280.8	.585	.401
1500	276.6	.877	.697
1515	275.6	1.020	.906
1530	276.6	.484	.308
1545	275.3	.398	.221
1600	273.9	.414	.252
1615	270.1	.666	.468
1630	272.8	.408	.244
1645	270.4	.377	.196
1700	271.1	.326	.162
1715	275.6	.157	.006
1730	278.4	.132	-.002
1745	273.2	.261	.092
1800	271.5	.242	.040
1815	272.8	.153	-.037
1830	274.6	.106	-.069
1845	278.0	.096	-.074
1900	287.1	.058	-.105
1915	300.4	.030	-.125
1930	308.2	.017	-.121
1945	320.7	.008	-.114
2000	331.1	-	-.114
2015	353.3	-	-.118
2030	339.2	-	-.112
2045	355.1	-	-.115
2100	343.6	-	-.116
2115	366.7	-	-.116
2130	372.4	-	-.120
2145	361.0	-	-.108
2200	335.1	-	-.124
2215	352.9	-	-.126
2230	363.9	-	-.122
2245	368.0	-	-.114
2300	360.6	-	-.106
2315	376.5	-	-.078
2330	362.4	-	-.068
2345	383.2	-	-.064
2400	399.0	-	-.070

CO₂ content and related data

Day 210
July 29, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	392.9	-	-0.066
0030	376.7	-	-.074
0045	381.3	-	-.070
0100	395.9	-	-.081
0115	400.3	-	-.070
0130	396.9	-	-.072
0145	404.2	-	-.072
0200	373.5	-	-.053
0215	350.2	-	-.054
0230	328.6	-	-.049
0245	329.0	-	-.048
0300	330.4	-	-.088
0315	327.9	-	-.080
0330	354.0	-	-.068
0345	355.1	-	-.056
0400	343.1	-	-.054
0415	342.7	-	-.054
0430	335.4	-	-.052
0445	329.0	-	-.052
0500	328.6	-	-.048
0515	324.6	-	-.048
0530	325.2	0.026	-.028
0545	321.4	.028	-.024
0600	321.9	.028	-.030
0615	320.0	.029	-.025
0630	318.2	.050	-.009
0645	313.6	.098	.018
0700	311.2	.096	.022
0715	308.9	.124	.054
0730	301.1	.228	.144
0745	298.8	.238	.148
0800	296.4	.262	.176
0815	292.7	.320	.216
0830	288.5	.293	.190
0845	293.7	.201	.108
0900	290.2	.272	.173
0915	286.4	.494	.378
0930	282.9	.744	.556
0945	278.4	1.008	.945
1000	280.1	.846	.694
1015	277.3	.845	.633
1030	282.2	.624	.472
1045	280.5	.545	.400
1100	280.5	.550	.409
1115	279.1	.336	.201
1130	279.8	.318	.193
1145	277.3	.253	.133

(cont.)

Day 210
July 29, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	280.5	0.174	0.057
1215	282.9	.137	.022
1230	285.7	.108	-
1245	285.7	.117	-
1300	284.6	.124	-
1315	287.1	.101	-
1330	287.4	.117	-
1345	289.9	.092	-
1400	290.9	.085	-
1415	293.7	.130	-
1430	291.6	.140	-
1445	291.1	.132	-
1500	292.7	.122	-
1515	297.6	.097	-
1530	296.2	.137	-
1545	293.7	.189	-
1600	294.8	.140	-
1615	294.8	.120	-
1630	298.7	.110	-
1645	299.0	.066	-
1700	301.1	.022	-
1715	301.1	.016	-
1730	305.4	.032	-
1745	307.5	.034	-
1800	318.2	.020	-
1815	320.3	.016	-
1830	321.4	.012	-
1845	322.1	.009	-
1900	318.9	.008	-
1915	314.3	.014	-
1930	315.7	-	-
1945	321.1	-	-
2000	324.3	-	-
2015	321.4	-	-
2030	321.4	-	-
2045	318.9	-	-
2100	318.2	-	-
2115	320.7	-	-
2130	330.6	-	-
2145	328	-	-
2200	328.2	-	-
2215	328.2	-	-
2230	330.0	-	-
2245	330.4	-	-
2300	332.9	-	-
2315	336.5	-	-
2330	328.4	-	-
2345	331.1	-	-
2400	333.6	-	-

CO₂ content and related data

Day 211
July 30, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0100	334	-	-
0200	345	-	-
0300	362	-	-
0400	367	-	-
0500	345	-	-
0600	340	0.12	-
0700	318	.38	+0.12
0800	302	.58	.34
0900	292	.83	.58
1000	286	1.10	.78
1100	281	1.08	.86
1200	281	.78	.64
1300	-	.64	.44
1400	-	.83	-
1500	286	.19	-
1600	292	.10	-
1700	308	.06	-
1800	313	.04	-
1900	345	-	-
2000	373	-	-
2100	362	-	-
2200	313	-	-
2300	313	-	-
2400	351	-	-

CO₂ content and related dataDay 215
August 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	376.1	-	-0.152
0030	384.0	-	-.168
0045	334.4	-	-.140
0100	339.8	-	-.140
0115	308.6	-	-.132
0130	363.9	-	-.140
0145	396.3	-	-.140
0200	322.5	-	-.136
0215	309.6	-	-.140
0230	312.8	-	-.140
0245	312.8	-	-.132
0300	307.5	-	-.132
0315	301.1	-	-.140
0330	305.4	-	-.136
0345	308.6	-	-.136
0400	306.4	-	-.136
0415	305.4	-	-.140
0430	300.1	-	-.132
0445	301.1	-	-.132
0500	302.2	0.008	-.124
0515	300.1	.024	-.108
0530	295.9	.044	-.092
0545	291.6	.064	-.080
0600	289.5	.184	-.012
0615	283.2	.248	.036
0630	279.4	.286	.073
0645	274.2	.350	.116
0700	270.8	.377	.140
0715	268.0	.452	.204
0730	264.7	.578	.301
0745	264.6	.648	.366
0800	262.2	.720	.431
0815	-	.800	.498
0830	-	.862	.572
0845	-	.916	.623
0900	281.6	.973	.665
0915	282.4	1.019	.734
0930	282.1	1.064	.769
0945	282.7	.990	.696
1000	280.3	1.069	.800
1015	278.9	1.162	.880
1030	274.8	1.197	.909
1045	276.0	1.225	.933
1100	277.3	1.283	1.003
1115	276.2	1.284	1.001
1130	274.2	1.315	1.047
1145	271.6	1.274	.928

(cont.)

Day 215
August 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	270.9	1.402	1.148
1215	271.1	1.167	.964
1230	269.3	1.328	1.104
1245	271.4	.885	.739
1300	271.6	1.312	1.096
1315	271.9	1.306	1.038
1330	271.4	1.257	.933
1345	271.1	1.263	.962
1400	268.8	1.173	.941
1415	264.4	1.088	.824
1430	266.5	1.122	.882
1445	264.9	.922	.700
1500	263.1	1.001	.642
1515	263.0	.660	.454
1530	263.8	.510	.282
1545	257.2	.796	.486
1600	-	.418	.209
1615	264.6	.722	.429
1630	264.6	.619	.324
1645	268.3	.383	.159
1700	259.7	.485	.250
1715	263.2	.466	.224
1730	256.2	.433	.220
1745	258.8	.243	.069
1800	262.6	.166	-.036
1815	265.3	.093	-.049
1830	270.0	.090	-.044
1845	278.6	.076	-.081
1900	291.6	.048	-.024
1915	316.2	.026	-.128
1930	333.3	.018	-.132
1945	342.0	.008	-.120
2000	363.9	.008	-.128
2015	354.0	-	-.108
2030	312.8	-	-.108
2045	346.3	-	-.100
2100	361.7	-	-.092
2115	338.7	-	-.080
2130	306.4	-	-.140
2145	290.6	-	-.132
2200	281.2	-	-.132
2215	281.2	-	-.144
2230	324.6	-	-.100
2245	298.0	-	-.120
2300	304.3	-	-.128
2315	329.0	-	-.136
2330	311.8	-	-.100
2345	321.4	-	-.092
2400	337.6	-	-.100

CO₂ content and related data

Day 216
August 4, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	320.3	-	-0.100
0030	299.0	-	-.092
0045	285.4	-	-.100
0100	283.2	-	-.120
0115	284.3	-	-.108
0130	287.4	-	-.100
0145	292.7	-	-.096
0200	291.6	-	-.100
0215	297.0	-	-.116
0230	292.7	-	-.096
0245	296.9	-	-.104
0300	293.7	-	-.096
0315	294.8	-	-.108
0330	294.8	-	-.112
0345	295.9	-	-.100
0400	303.3	-	-.092
0415	318.2	-	-.100
0430	305.4	-	-.088
0445	295.9	-	-.096
0500	304.3	0.008	-.104
0515	301.1	.016	-.104
0530	302.2	.024	-.100
0545	301.1	.044	-.072
0600	294.8	.120	-.020
0615	290.6	.156	.004
0630	286.4	.208	.044
0645	278.4	.272	.090
0700	280.1	.304	.119
0715	278.5	.377	.180
0730	277.4	.445	.243
0745	273.9	.519	.313
0800	272.1	.598	.378
0815	272.4	.518	.300
0830	271.2	.605	.385
0845	270.4	.688	.462
0900	267.1	.832	.590
0915	267.1	.896	.653
0930	264.9	.933	.683
0945	265.9	1.002	.754
1000	264.0	1.040	.786
1015	263.5	1.051	.824
1030	262.4	1.187	.929
1045	262.5	1.216	.958
1100	261.6	1.267	1.011
1115	263.5	1.292	1.050
1130	263.4	1.357	1.075
1145	262.6	1.440	1.130

(cont.)

Day 216
August 4, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	265.6	1.183	1.005
1215	277.9	.758	.564
1230	276.1	1.074	.794
1245	280.1	1.111	.876
1300	277.3	1.222	1.065
1330	280.8	.414	.303
1345	282.1	.348	.226
1400	276.5	.893	.744
1415	275.6	1.021	.814
1430	278.2	1.013	.800
1445	280.9	.472	.316
1500	283.2	.408	.275
1515	282.4	.530	.373
1530	282.4	.678	.521
1545	281.4	.814	.626
1600	279.7	.783	.564
1615	278.0	.646	.446
1630	280.1	.476	.282
1645	279.8	.348	.170
1700	281.2	.264	.103
1715	283.5	.209	.050
1730	284.6	.190	.037
1745	285.3	.145	.002
1800	286.8	.116	-.025
1815	288.5	.080	-.041
1830	289.7	.037	-.055
1845	291.3	.024	-.065
1900	290.6	.024	-.078
1915	297.0	.020	-.096
1930	309.6	-	-.072
1945	297.0	-	-.080
2000	302.2	-	-
2015	301.1	-	-
2030	307.5	-	-
2045	307.6	-	-
2100	332.2	-	-
2115	320.3	-	-
2130	310.7	-	-
2145	306.4	-	-
2200	299.0	-	-
2215	302.2	-	-
2230	310.7	-	-
2245	302.2	-	-
2300	300.1	-	-
2315	304.3	-	-
2330	307.5	-	-.164
2345	303.3	-	-.120
2400	302.2	-	-.132

CO₂ content and related dataDay 217
August 5, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	304.3	-	-0.136
0030	307.5	-	-.132
0045	304.3	-	-.132
0100	307.6	-	-.140
0115	306.4	-	-.120
0130	310.7	-	-.124
0145	307.6	-	-.140
0200	307.6	-	-.140
0215	311.8	-	-.120
0230	306.4	-	-.120
0245	307.6	-	-.132
0300	307.6	-	-.140
0315	310.7	-	-.088
0330	309.6	-	-.080
0345	310.7	-	-.100
0400	310.7	-	-.064
0415	309.6	-	-.056
0430	310.7	-	-.108
0445	313.9	-	-.124
0500	331.1	-	-.096
0515	327.9	-	-.088
0530	309.6	-	-.108
0545	306.6	-	-.072
0600	318.2	-	-.080
0615	301.1	0.120	.028
0630	301.1	.136	.084
0645	301.1	.068	.016
0700	294.3	.182	.078
0715	292.4	.304	.186
0730	291.8	.292	.194
0745	289.3	.385	.230
0800	289.2	.524	.328
0815	285.9	.553	.349
0830	284.0	.588	.417
0845	284.1	.693	.496
0900	280.9	.569	.437
0915	282.7	.601	.463
0930	278.9	.306	.623
0945	277.4	.626	.440
1000	272.1	.837	.684
1015	276.5	.514	.411
1030	273.1	.756	.609
1045	271.1	.909	.721
1100	271.4	.900	.744
1115	266.9	1.075	.878
1130	272.2	1.162	1.006
1145	270.2	1.098	.925

(cont.)

Day 217
August 5, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	266.0	1.166	1.051
1215	271.6	1.291	1.130
1230	269.7	.881	.757
1245	270.2	.946	.806
1300	264.6	.968	.762
1315	260.1	.858	.721
1330	265.7	.869	.686
1345	264.4	.944	.795
1400	284.1	1.077	.951
1415	278.9	1.132	.936
1430	281.9	.727	.558
1445	286.8	.739	.601
1500	283.1	.936	.766
1515	281.6	.799	.618
1530	-	.793	.652
1545	-	.883	.701
1600	283.4	.736	.541
1615	281.8	.606	.411
1630	279.1	.593	.398
1645	275.7	.431	.254
1700	271.4	.497	.300
1715	273.1	.380	.184
1730	266.6	.374	.176
1745	273.0	.256	.068
1800	276.4	.180	.008
1815	285.9	.065	-.065
1830	318.2	.032	-.085
1845	337.2	.041	-.072
1900	348.1	.016	-.104
1915	373.1	-	-.113
1930	399.2	-	-.121
1945	418.9	-	-.118
2000	411.9	-	-.112
2015	440.6	-	-.120
2030	442.1	-	-.118
2045	399.9	-	-.109
2100	306.4	-	-.100
2115	281.6	-	-.108
2130	294.8	-	-.108
2145	289.5	-	-.108
2200	294.8	-	-.108
2215	299.0	-	-.132
2230	310.7	-	-.080
2245	316.0	-	-
2300	317.1	-	-
2315	343.1	-	-
2330	323.6	-	-
2345	334.4	-	-
2400	334.4	-	-

Day 218
August 6, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	282.4	1.154	0.955
1215	288.8	.455	.376
1230	280.3	1.023	.965
1245	279.4	1.099	.946
1300	284.6	.877	.703
1315	288.1	.386	.260
1330	287.0	.505	.406
1345	285.8	.540	.479
1400	261.5	.841	.708
1415	270.6	.380	.271
1430	268.8	.345	.205
1445	267.5	.305	.179
1500	272.8	.276	-
1515	261.3	.860	-
1530	259.0	.746	-
1545	266.0	.408	.285
1600	263.8	.308	.145
1615	261.8	.309	.223
1630	265.9	.218	.116
1645	264.9	.224	.036
1700	269.9	.126	.034
1715	275.8	.065	-
1730	279.7	.065	-
1745	282.7	.031	-
1800	285.8	.028	-
1815	287.6	.025	-
1830	291.8	.020	-
1845	299.7	.009	-
1900	305.4	-	-
1915	312.8	-	-
1930	310.7	-	-
1945	287.4	-	-
2000	295.9	-	-
2015	291.6	-	-
2030	291.6	-	-
2045	-	-	-
2100	302.2	-	0.016
2115	336.5	-	.000
2130	351.8	-	.000
2145	297.0	-	-.120
2200	375.0	-	.000
2215	366.1	-	.000
2230	307.6	-	-.120
2245	371.7	-	.000
2300	414.5	-	-.004
2315	394.1	-	.000
2330	370.6	-	.000
2345	350.7	-	.000
2400	361.7	-	.000

Day 218
August 6, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	330.0	-	-
0030	323.6	-	-
0045	318.2	-	-
0100	316.0	-	-
0115	311.8	-	-
0130	313.9	-	-
0145	318.2	-	-
0200	378.4	-	-
0215	384.0	-	-
0230	384.0	-	-
0245	358.4	-	-
0300	337.6	-	-
0315	322.5	-	-
0330	318.2	-	-
0345	324.6	-	-
0400	329.0	-	-
0415	342.0	-	-
0430	344.1	-	-
0445	339.8	-	-
0500	361.7	-	-
0515	355.1	-	-
0530	362.4	0.008	-
0545	345.1	.025	-
0600	342.5	.050	-
0615	330.2	.084	-
0630	309.8	.110	-
0645	298.6	.179	-
0700	298.1	.241	-
0715	292.5	.319	-
0730	287.0	.339	-
0745	284.1	.429	-
0800	282.5	.355	-
0815	279.1	.435	-
0830	280.5	.325	-
0845	282.8	.280	-
0900	279.9	.494	-
0915	274.0	.572	-
0930	273.0	.454	-
0945	272.7	.311	-
1000	275.5	.193	-
1015	283.4	.172	-
1030	273.4	.611	-
1045	-	.660	-
1100	-	.344	0.266
1115	-	.331	.250
1130	-	.776	.641
1145	285.2	.993	.903

(cont.)

CO₂ content and related dataDay 219
August 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	366.1	-	0.000
0030	359.5	-	.000
0045	361.7	-	.000
0100	349.6	-	.000
0115	344.1	-	.000
0130	318.2	-	-
0145	381.7	-	.000
0200	320.3	-	-
0215	317.1	-	-
0230	313.9	-	-
0245	317.1	-	-
0300	312.8	-	-
0315	315.0	-	-
0330	315.0	-	-0.164
0345	316.0	-	-.140
0400	321.4	-	-.168
0415	318.2	-	-.168
0430	321.4	-	-.124
0445	329.0	-	-.140
0500	323.6	-	-.100
0515	318.2	-	-.100
0530	318.2	-	-.084
0545	325.7	-	-.072
0600	321.4	-	-.080
0615	318.2	-	-
0630	317.1	-	-
0645	319.3	0.016	-
0700	317.1	.016	-
0715	317.8	.022	-
0730	313.9	.054	-
0745	306.4	.254	-
0800	300.1	.360	-
0815	298.0	.316	-
0830	300.6	.248	-
0845	302.2	.220	-
0900	301.1	.368	-
0915	294.8	.480	0.246
0930	291.3	.465	.340
0945	300.1	.120	.038
1000	304.9	.082	.018
1015	307.9	.053	-
1030	319.6	.032	-
1045	318.2	.021	-
1100	313.4	.090	-
1115	307.2	.082	-
1130	310.7	.046	-
1145	307.9	.132	-

(cont.)

Day 219
August 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	311.4	0.029	-
1215	312.3	.120	-
1230	314.6	.149	-
1245	310.7	.210	-
1300	311.1	.517	-
1315	308.9	.514	-
1330	312.3	.388	-
1345	303.3	.569	-
1400	300.1	.516	-
1415	299.0	.678	0.610
1430	299.4	.401	.213
1445	299.0	.304	.118
1500	296.4	.292	.144
1515	292.3	.868	.632
1530	294.4	.424	.344
1545	290.6	.774	.541
1600	292.3	.781	.589
1615	290.1	.706	.512
1630	289.5	.640	.446
1645	290.6	.566	.364
1700	290.3	.353	.174
1715	289.5	.452	.288
1730	289.5	.377	.168
1745	289.9	.300	.093
1800	289.5	.217	.018
1815	290.2	.152	-.026
1830	292.7	.094	-.072
1845	294.8	.064	-.092
1900	321.8	.014	-.130
1915	354.0	-	-.177
1930	374.3	-	-
1945	403.5	-	-
2000	415.1	-	-
2015	401.6	-	-
2030	446.8	-	-
2045	439.9	-	-
2100	467.8	-	-
2115	476.1	-	-
2130	454.9	-	-
2145	452.6	-	-
2200	466.7	-	-
2215	483.2	-	-
2230	488.0	-	-
2245	488.0	-	-
2300	498.8	-	-
2315	462.0	-	-
2330	402.0	-	-
2345	369.5	-	-
2400	384.0	-	-

CO₂ content and related dataDay 220
August 8, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	406.5	-	-
0030	406.6	-	-
0045	429.4	-	-
0100	429.4	-	-
0115	452.6	-	-
0130	452.6	-	-
0145	457.3	-	-
0200	488.0	-	-
0215	498.8	-	-
0230	498.8	-	-
0245	498.8	-	-
0300	500 +	-	-
0315	498.8	-	-
0330	500 +	-	-
0345	500 +	-	-
0400	500 +	-	-
0415	500 +	-	-
0430	500 +	-	-
0445	480.9	-	-
0500	500 +	-	-
0515	498.8	-	-
0530	452.6	-	-
0545	452.6	-	-
0600	359.5	0.020	-
0615	357.3	.008	-
0630	354.0	.086	-
0645	335.9	.099	-
0700	320.9	.128	-
0715	313.4	.262	-
0730	300.6	.299	-
0745	294.4	.485	-
0800	291.9	.405	-
0815	290.6	.302	-
0830	290.6	.223	-
0845	292.7	.198	-
0900	293.7	.188	-
0915	296.9	.160	-
0930	287.0	.056	0.200
0945	286.4	.748	.400
1000	286.4	.800	.480
1015	286.4	1.000	.440
1030	297.0	1.000	.560
1045	297.0	.600	.240
1100	297.0	.800	.720
1115	297.0	1.160	.440
1130	286.4	.960	.680
1145	297.0	1.000	.720

(cont.)

Day 220
August 8, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	286.4	1.200	0.800
1215	286.4	1.080	.800
1230	286.4	.960	1.000
1245	297.0	.920	.800
1300	286.4	.960	.800
1315	286.4	1.440	1.080
1330	276.0	1.320	1.080
1345	286.4	.520	.400
1400	297.0	.640	.600
1415	286.4	.600	.400
1430	297.0	.520	.400
1445	284.3	.794	.552
1500	284.3	.791	.581
1515	282.2	.376	.200
1530	282.2	.448	.324
1545	288.5	.360	.224
1600	289.5	.500	.216
1615	285.3	.684	.300
1630	285.3	.276	.144
1645	283.2	.536	.368
1700	286.4	.300	.160
1715	297.0	.360	.200
1730	286.4	.480	.320
1745	285.3	.196	.040
1800	291.6	.064	-.020
1815	293.7	.044	-.040
1830	293.7	.036	-.104
1845	294.8	.016	-.140
1900	309.6	.016	-.164
1915	323.6	-	-.188
1930	327.9	-	-
1945	339.8	-	-
2000	329.0	-	-
2015	358.4	-	-
2030	384.0	-	-
2045	386.2	-	-
2100	389.6	-	-
2115	423.6	-	-
2130	380.6	-	-
2145	406.5	-	-
2200	409.9	-	-
2215	412.2	-	-
2230	407.6	-	-
2245	415.6	-	-
2300	435.2	-	-
2315	427.1	-	-
2330	411.1	-	-
2345	412.2	-	-
2400	408.8	-	-

CO₂ content and related data

Day 226
August 14, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	309.6	-	-
0030	315.0	-	-
0045	329.0	-	-
0100	325.7	-	-
0115	337.6	-	-
0130	317.1	-	-
0145	321.4	-	-
0200	348.5	-	-
0215	336.5	-	-
0230	344.1	-	-
0245	391.8	-	-
0300	386.2	-	-
0315	-	-	-
0330	381.7	-	-
0345	361.7	-	-
0400	348.5	-	-
0415	369.5	-	-
0430	373.9	-	-
0445	369.5	-	-
0500	372.8	-	-
0515	368.3	-	-
0530	365.0	-	-
0545	344.1	-	-
0600	318.2	-	-
0615	315.0	-	-
0630	321.4	-	-
0645	320.3	-	-
0700	313.9	-	-
0715	313.9	-	-
0730	-	-	-
0745	315.0	0.013	-
0800	315.7	.041	-
0815	309.1	.058	-
0830	303.8	.042	-
0845	298.5	.062	-
0900	295.1	.098	-
0915	295.9	.070	-
0930	298.0	.090	-
0945	293.0	.265	-
1000	286.0	.337	-
1015	290.9	.089	-
1030	293.4	.104	-
1045	292.3	.146	-
1100	292.3	.185	-
1115	294.4	.168	-
1130	296.6	.141	-
1145	294.8	.160	-

(cont.)

Day 226
August 14, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	292.7	0.124	-
1215	293.0	.071	-
1230	293.2	.104	-
1245	290.1	.184	-
1300	291.1	.154	-
1315	290.3	.113	-
1330	290.1	.154	-
1345	284.6	.252	-
1400	282.6	.234	-
1415	283.2	.194	-
1430	287.4	.117	-
1445	287.4	.242	-
1500	285.7	.170	-
1515	287.8	.122	-0.064
1530	286.7	.212	.058
1545	286.7	.180	.048
1600	284.3	.220	.081
1615	285.3	.108	-.018
1630	288.5	.061	-.086
1645	290.2	.050	-.101
1700	290.2	.034	-.130
1715	291.6	.030	-.128
1730	289.9	.126	-.050
1745	288.5	.094	-.138
1800	289.9	.154	-.104
1815	290.9	.077	-.164
1830	290.9	.048	-.165
1845	291.6	.048	-.160
1900	292.2	.019	-.217
1915	293.2	-	-.216
1930	294.8	-	-.186
1945	296.9	-	-.192
2000	296.9	-	-.192
2015	307.5	-	-.188
2030	307.5	-	-
2045	305.4	-	-
2100	320.3	-	-
2115	349.6	-	-
2130	357.3	-	-
2145	378.4	-	-
2200	363.9	-	-
2215	345.2	-	-
2230	334.4	-	-
2245	342.0	-	-
2300	356.2	-	-
2315	339.8	-	-
2330	307.5	-	-
2345	310.7	-	-
2400	317.1	-	-

CO₂ content and related data

Day 227
August 15, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
0015	334.4	-	-
0030	348.5	-	-
0045	350.7	-	-
0100	355.1	-	-
0115	334.4	-	-
0130	348.5	-	-
0145	369.5	-	-
0200	398.6	-	-
0215	424.8	-	-
0230	436.3	-	-
0245	412.2	-	-
0300	417.9	-	-
0315	415.6	-	-
0330	427.1	-	-
0345	429.4	-	-
0400	395.2	-	-
0415	373.9	-	-
0430	361.7	-	-
0445	370.6	-	-
0500	-	-	-
0515	352.9	-	-
0530	355.1	-	-
0545	359.5	0.012	-
0600	356.2	.028	-
0615	350.0	.048	-
0630	323.7	.061	-
0645	301.0	.092	-
0700	295.7	.130	-
0715	294.8	.176	-
0730	291.6	.248	-
0745	289.5	.368	-
0800	284.3	.748	-
0815	280.1	.776	-
0830	278.0	.788	-
0845	273.4	.901	-
0900	273.9	.960	0.616
0915	271.1	1.100	.526
0930	267.1	1.072	.670
0945	266.6	1.113	.732
1000	265.6	1.172	.808
1015	258.4	1.212	.892
1030	258.6	1.216	.890
1045	258.1	1.357	1.026
1100	255.7	1.324	1.025
1115	257.9	1.351	1.030
1130	261.3	1.331	1.025
1145	262.2	1.357	1.060

(cont.)

Day 227
August 15, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)
1200	261.0	1.444	1.202
1215	261.8	1.407	1.149
1230	259.7	1.396	1.098
1245	260.0	1.354	1.086
1300	262.5	1.324	1.058
1315	260.6	1.305	1.033
1330	259.6	1.277	1.010
1345	263.4	1.168	.899
1400	259.4	1.191	.886
1415	260.0	1.160	.856
1430	260.6	1.122	.803
1445	261.1	1.073	.756
1500	261.2	1.014	.689
1515	259.4	.964	.643
1530	257.2	.912	.579
1545	257.8	.850	.504
1600	257.1	.786	.447
1615	257.4	.727	.371
1630	258.8	.660	.303
1645	257.9	.595	.233
1700	259.0	.525	.163
1715	259.9	.455	.102
1730	260.0	.381	.040
1745	260.1	.314	-.014
1800	261.3	.245	-.069
1815	263.2	.181	-.120
1830	271.6	.120	-.166
1845	286.4	.072	-.196
1900	306.4	.028	-.198
1915	319.4	.020	-.200
1930	331.6	.017	-.197
1945	340.1	.008	-.197
2000	361.7	-	-.202
2015	381.7	-	-.192
2030	386.2	-	-.192
2045	384.0	-	-.196
2100	349.6	-	-.196
2115	355.1	-	-.192
2130	344.1	-	-.182
2145	354.0	-	-.180
2200	350.7	-	-.188
2215	347.4	-	-.184
2230	358.4	-	-.188
2245	365.0	-	-.188
2300	349.6	-	-.134
2315	354.0	-	-.180
2330	354.0	-	-.180
2345	348.5	-	-.180
2400	354.0	-	-.180

CO₂ content and related dataDay 236
August 24, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	400.8	-	-0.124		
0030	400.8	-	-0.120		
0045	400.8	-	-0.120		
0100	405.4	-	-0.124	16	-
0115	405.4	-	-0.148		
0130	406.5	-	-0.160		
0145	406.5	-	-0.156		
0200	-	-	-	15	-
0215	332.2	-	-0.156		
0230	349.6	-	-0.160		
0245	363.9	-	-0.160		
0300	350.7	-	-0.156	12	-
0315	339.8	-	-0.168		
1330	343.1	-	-0.160		
1345	343.1	-	-0.160		
0400	352.9	-	-0.124	12	-
1415	339.8	-	-0.128		
1430	348.5	-	-0.124		
0445	342.0	-	-0.128		
0500	330.0	-	-0.132	12	-
0515	332.6	-	-0.130		
0530	329.6	0.013	-0.128		
0545	329.1	.025	-0.118		
0600	325.5	.043	-0.103	12	-
0615	322.2	.102	-0.053		
0630	319.4	.198	+0.015		
0645	316.5	.257	.068		
0700	313.1	.289	.098	15	14
0715	311.9	.389	.188		
0730	312.3	.433	.217		
0745	312.0	.536	.342		
0800	310.1	.621	.415	17	15
0815	311.2	.669	.495		
0830	311.2	.748	.554		
0845	308.8	.830	.657		
0900	308.1	.899	.733	19	16
0915	306.7	.975	.804		
0930	305.1	.892	.871		
0945	301.8	1.076	.942		
1000	299.2	1.095	.962	20	18
1015	301.4	1.025	.907		
1030	301.5	1.192	.765		
1045	-	1.119	1.038		
1100	-	1.261	1.186	22	19
1115	286.6	1.098	1.052		
1130	286.2	1.284	1.220		
1145	284.7	1.288	1.252		

(cont.)

Day 236
August 24, 1962

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	286.0	1.288	1.255	24	22
1215	284.5	1.293	1.253		
1230	283.9	1.289	1.252		
1245	282.4	1.278	1.220		
1300	283.8	.936	.782	25	26
1315	282.2	1.245	.916		
1330	282.9	1.228	.589		
1345	284.8	1.206	.780		
1400	276.5	.870	.761	26	24
1415	273.9	1.137	.717		
1430	278.6	1.054	.668		
1445	279.1	1.065	.420		
1500	274.9	1.005	.606	27	23
1515	272.8	.941	.405		
1530	273.5	.888	.245		
1545	273.2	.780	.405		
1600	273.4	.746	.495	27	22
1615	-	-	-		
1630	276.0	.608	.360		
1645	276.7	.558	.302		
1700	277.3	.413	.186	26	21
1715	282.6	.404	.152		
1730	279.9	.318	.070		
1745	283.8	.259	.028		
1800	281.2	.204	-.012	25	20
1815	287.7	.131	-.079		
1830	293.2	.068	-.120		
1845	294.0	.036	-.125		
1900	295.4	.020	-.132	20	19
1915	311.3	.014	-.125		
1930	349.1	.014	-.122		
1945	347.7	.018	-.115		
2000	329.0	-	-.140	17	17
2015	301.4	-	-.125		
2030	296.9	-	-.132		
2045	292.3	-	-.133		
2100	293.2	-	-.138	19	16
2115	293.2	-	-.140		
2130	-	-	-		
2145	-	-	-		
2200	302.0	-	-.140	17	16
2215	-	-	-		
2230	320.3	-	-.116		
2245	-	-	-		
2300	329.0	-	-.130	14	15
2315	-	-	-		
2330	323.6	-	-.116		
2345	-	-	-		
2400	306.4	-	-.112	14	14

CO₂ content and related dataDay 240
August 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	354.0	-	-		
0030	-	-	-		
0045	421.3	-	-		
0100	351.8	-	-	15	18
0115	441.0	-	-		
0130	404.2	-	-		
0145	423.6	-	-		
0200	437.5	-	-	13	18
0215	378.4	-	-		
0230	421.3	-	-		
0245	366.1	-	-		
0300	421.3	-	-	15	18
0315	386.2	-	-		
0330	384.0	-	-		
0345	381.7	-	-		
0400	384.0	-	-	15	18
0415	373.9	-	-		
0430	381.7	-	-0.164		
0445	377.2	-	-.128		
0500	376.1	-	-.112	15	18
0515	386.2	-	-.108		
0530	405.4	0.008	-.096		
0545	385.1	.016	-.100		
0600	352.9	.022	-.072	15	18
0615	349.0	.034	-.052		
0630	352.0	.080	-.034		
0645	-	-	-		
0700	335.6	.159	+.053	15	18
0715	320.2	.215	.074		
0730	319.6	.282	.147		
0745	318.3	.162	.091		
0800	314.1	.248	.150	17	18
0815	309.0	.338	.226		
0830	302.7	.310	.234		
0845	308.1	.254	.165		
0900	306.1	.550	.390	19	19
0915	297.8	.929	.777		
0930	293.1	.792	.619		
0945	295.4	.921	.794		
1000	298.1	.586	.442	21	20
1015	295.4	.743	.618		
1030	296.8	.829	.711		
1045	298.5	1.240	1.149		
1100	296.3	.785	.717	22	21
1115	294.5	1.131	.996		
1130	296.0	.814	.697		
1145	293.0	.661	.596		

(cont.)

Day 240
August 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	291.3	0.544	0.455	22	22
1215	288.5	.916	.850		
1230	291.6	.718	.632		
1245	296.6	.343	.247		
1300	293.6	.517	.429	23	22
1315	289.8	.894	.796		
1330	289.5	.845	.774		
1345	291.3	.829	.671		
1400	293.9	.392	.269	23	22
1415	289.5	1.062	.928		
1430	200.6	1.041	.927		
1445	-	.968	.802		
1500	289.9	.959	.816	24	23
1515	292.9	.550	.406		
1530	296.7	.363	.165		
1545	300.6	.146	.044		
1600	299.9	.211	-	21	22
1615	295.2	.283	-		
1630	298.0	.174	-		
1645	298.4	.189	-		
1700	294.3	.191	-	20	21
1715	296.5	.164	-		
1730	298.4	.140	-		
1745	303.1	.122	-		
1800	304.8	.141	-0.042	20	21
1815	310.2	.093	-.069		
1830	316.3	.052	-.099		
1845	324.9	.023	-.117		
1900	339.6	.009	-.121	17	20
1915	350.2	.006	-.118		
1930	357.1	-	-.068		
1945	365.8	-	-.072		
2000	392.2	-	-.086	16	19
2015	380.6	-	-.132		
2030	336.5	-	-.136		
2045	362.8	-	-.140		
2100	342.0	-	-.136	16	19
2115	359.5	-	-.096		
2130	338.7	-	-.028		
2145	347.4	-	-.032		
2200	336.5	-	-.032	17	19
2215	340.9	-	-.036		
2230	338.7	-	-.028		
2245	336.5	-	-.028		
2300	334.4	-	-.032	17	19
2315	334.4	-	-.032		
2330	338.7	-	-.028		
2345	337.6	-	-.028		
2400	334.4	-	-.028	17	19

CO₂ content and related dataDay 244
September 1, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	332.2	-	0.004		
0030	343.1	-	-.012		
0045	340.9	-	-.100		
0100	340.9	-	-.004	23	20
0115	332.2	-	-.028		
0130	336.5	-	-.028		
0145	331.1	-	-.020		
0200	331.1	-	-.020	24	20
0215	344.1	-	-.012		
0230	345.2	-	-.004		
0245	339.8	-	-.016		
0300	338.7	-	-.020	24	20
0315	345.2	-	-.028		
0330	339.8	-	-.068		
0345	332.2	-	-.060		
0400	331.1	-	-.020	24	20
0415	337.6	-	-.020		
0430	332.2	-	-.020		
0445	344.1	-	-.020		
0500	336.5	-	-	23	20
0515	332.2	-	-.068		
0530	343.1	0.012	-.016		
0545	345.2	0.020	-.012		
0600	341.6	.044	+.006	23	20
0615	-	.063	.016		
0630	310.9	.080	.010		
0645	310.9	.118	.040		
0700	310.2	.210	.142	23	20
0715	308.7	.182	.109		
0730	308.4	.294	.163		
0745	304.9	.381	.224		
0800	299.3	.534	.369	24	21
0815	297.4	.658	.518		
0830	295.4	.719	.592		
0845	296.9	.402	.310		
0900	296.0	.631	.532	25	22
0915	292.2	.477	.423		
0930	291.3	.521	.432		
0945	293.6	.230	.130		
1000	296.8	.128	.094	24	22
1015	298.1	.153	.128		
1030	295.6	.114	.059		
1045	304.0	.120	-		
1100	297.4	.244	-	20	22
1115	294.3	.269	-		
1130	294.5	.296	-		
1145	296.0	.193	-		

(cont.)

Day 244
September 1, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	296.6	0.250	-	20	22
1215	290.3	.357	-		
1230	289.4	.348	-		
1245	294.6	.176	-		
1300	293.4	.385	-	21	23
1315	289.1	.519	0.340		
1330	294.2	.290	.233		
1345	295.0	.312	.255		
1400	292.8	.347	.272	22	23
1415	289.7	.374	.296		
1430	292.7	.339	.249		
1445	294.8	.303	.052		
1500	295.0	.230	.122	22	23
1515	294.3	.308	.246		
1530	-	-	-		
1545	-	-	-		
1600	297.0	.260	+.170	22	24
1615	-	-	-		
1630	-	-	-		
1645	-	-	-		
1700	297.0	.140	+.060	21	23
1715	-	-	-		
1730	-	-	-		
1745	-	-	-		
1800	308.0	.060	+.020	20	23
1815	-	-	-		
1830	-	-	-		
1845	-	-	-		
1900	370.6	-	-.052	17	22
1915	406.4	-	-.012		
1930	407.6	-	-.012		
1945	417.9	-	-.016		
2000	437.5	-	-.072	17	22
2015	370.6	-	-.044		
2030	-	-	-		
2045	319.3	-	-.012		
2100	322.5	-	-.020	18	22
2115	321.4	-	-.012		
2130	321.3	-	-.016		
2145	327.9	-	-.016		
2200	327.9	-	-.016	17	21
2215	332.2	-	-.016		
2230	327.9	-	-.020		
2245	321.4	-	-.016		
2300	318.2	-	-.036	17	21
2315	325.7	-	-.032		
2330	332.2	-	-.040		
2345	352.9	-	-.048		
2400	365.0	-	-.040	15	20

CO₂ content and related dataDay 245
September 2, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	365.0	-	-0.056		
0030	376.1	-	-0.072		
0045	387.3	-	-0.052		
0100	404.2	-	-0.072	13	20
0115	412.2	-	-0.068		
0130	412.2	-	-0.080		
0145	389.6	-	-0.088		
0200	329.0	-	-0.068	14	19
0215	331.1	-	-0.052		
0230	334.4	-	-0.060		
0245	334.4	-	-0.060		
0300	331.1	-	-0.052	14	19
0315	332.2	-	-0.060		
0330	331.1	-	-0.052		
0345	334.4	-	-0.048		
0400	337.6	-	-0.040	13	18
0415	348.5	-	-0.044		
0430	367.2	-	-0.052		
0445	350.7	-	-0.052		
0500	355.1	-	-0.052	12	18
0515	356.2	-	-0.052		
0530	349.6	-	-0.052		
0545	347.4	0.016	-0.056		
0600	344.1	.024	-0.032	13	18
0615	343.1	.034	-0.024		
0630	344.3	.031	-0.020		
0645	354.0	.041	-0.013		
0700	354.2	.043	-0.009	16	18
0715	350.6	.048	-0.002		
0730	351.0	.050	-0.001		
0745	348.5	.064	+0.008		
0800	347.6	.076	.014	16	18
0815	346.3	.115	.047		
0830	344.9	.140	.072		
0845	346.3	.172	.096		
0900	343.4	.177	.097	18	18
0915	337.9	.245	.167		
0930	330.6	.395	.305		
0945	326.9	.392	.305		
1000	319.6	.396	.312	20	19
1015	315.4	.409	.319		
1030	314.1	.490	.394		
1045	312.2	.424	.333		
1100	312.8	.329	.240	20	20
1115	-	.268	.188		
1130	-	.298	.205		
1145	296.3	.397	.293		

(cont.)

Day 245
September 2, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	298.4	0.414	0.304	20	20
1215	296.8	.741	.630		
1230	286.1	.709	.603		
1245	284.0	.565	.453		
1300	276.2	.565	.451	21	21
1315	281.6	.498	.391		
1330	281.9	.520	.397		
1345	281.2	.597	.479		
1400	283.8	.450	.338	21	21
1415	291.5	.614	.480		
1430	286.1	.983	.808		
1445	283.0	.979	.793		
1500	281.9	1.009	.868	23	22
1515	285.6	.917	.724		
1530	287.3	.789	.404		
1545	283.5	.600	.301		
1600	281.5	.656	.473	23	22
1615	281.0	.469	.240		
1630	279.4	.602	.387		
1645	279.7	.506	.270		
1700	278.9	.432	.192	23	21
1715	282.5	.360	.114		
1730	282.4	.281	.050		
1745	283.8	.212	-.008		
1800	283.2	.143	-.058	20	20
1815	291.9	.080	-.110		
1830	310.4	.036	-.132		
1845	334.5	.012	-.131		
1900	350.7	.016	-.148	14	19
1915	338.7	-	-.128		
1930	346.3	-	-.128		
1945	377.2	-	-.124		
2000	376.1	-	-.124	11	18
2015	348.5	-	-.120		
2030	361.7	-	-.124		
2045	361.7	-	-.128		
2100	384.0	-	-.120	10	17
2115	386.2	-	-.124		
2130	399.7	-	-.124		
2145	402.0	-	-.128		
2200	397.4	-	-.116	9	16
2215	404.2	-	-.116		
2230	414.5	-	-.116		
2245	408.8	-	-.112		
2300	404.2	-	-.100	8	15
2315	416.8	-	-.112		
2330	408.8	-	-.096		
2345	397.4	-	-.100		
2400	417.9	-	-.108	7	15

CO₂ content and related data

Day 246
September 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (lv/min)	R _n (lv/min)	T _{air} (°C)	T _{soil} (°C)
0015	421.3	-	-0.092		
0030	398.6	-	-.096		
0045	417.9	-	-.092		
0100	-	-	-	7	14
0115	414.5	-	-.092		
0130	416.8	-	-.104		
0145	414.2	-	-.100		
0200	406.5	-	-.112	7	14
0215	424.8	-	-.120		
0230	-	-	-		
0245	436.3	-	-.124		
0300	445.6	-	-.120	6	13
0315	438.6	-	-.112		
0330	438.6	-	-.112		
0345	443.3	-	-.116		
0400	431.7	-	-.112	5	13
0415	441.0	-	-.112		
0430	444.4	-	-.112		
0445	438.6	-	-.112		
0500	444.4	-	-.108	5	12
0515	441.0	-	-.108		
0530	442.1	0.012	-.100		
0545	439.8	.020	-.092		
0600	430.5	.036	-.092	4	12
0615	420.2	.048	-.072		
0630	416.3	.150	-.001		
0645	371.2	.236	+.052		
0700	343.7	.303	.112	9	12
0715	338.1	.377	.176		
0730	315.4	.446	.237		
0745	304.2	.518	.307		
0800	300.2	.587	.374	16	14
0815	296.2	.654	.445		
0830	292.2	.725	.512		
0845	290.0	.789	.567		
0900	289.5	.853	.633	20	16
0915	289.8	.910	.688		
0930	285.8	.970	.754		
0945	287.6	1.020	.805		
1000	288.0	1.068	.840	22	18
1015	286.2	1.113	.896		
1030	286.8	1.154	.928		
1045	286.7	1.184	.980		
1100	288.0	1.203	1.015	23	19
1115	288.2	1.228	1.041		
1130	288.0	1.029	.786		
1145	286.4	1.113	.961		

(cont.)

Day 246
September 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	287.9	1.264	1.090	24	22
1215	284.3	1.262	1.077		
1230	287.0	1.242	1.080		
1245	286.5	.901	.742		
1300	285.0	1.232	1.067	24	24
1315	283.8	1.200	1.034		
1330	283.4	1.170	1.004		
1345	283.7	1.140	.958		
1400	280.8	1.101	.925	25	23
1415	283.5	1.069	.890		
1430	285.0	1.017	.836		
1445	284.4	.973	.769		
1500	282.7	.927	.698	25	22
1515	281.2	.875	.641		
1530	281.0	.812	.409		
1545	280.1	.745	.263		
1600	280.0	.682	.453	25	22
1615	278.8	.618	.386		
1630	277.7	.548	.314		
1645	279.2	.479	.244		
1700	278.2	.408	.179	24	21
1715	277.9	.334	.102		
1730	276.8	.261	.042		
1745	275.5	.192	-.017		
1800	280.0	.129	-.061	20	20
1815	291.9	.072	-.105		
1830	303.9	.020	-.114		
1845	318.0	.012	-.122		
1900	336.2	.006	-.125	14	19
1915	358.6	-	-.120		
1930	357.6	-	-.119		
1945	350.7	-	-.112		
2000	356.2	-	-.108	13	18
2015	358.4	-	-.100		
2030	365.0	-	-.108		
2045	378.4	-	-.104		
2100	381.7	-	-.100	10	17
2115	371.7	-	-.108		
2130	370.6	-	-.100		
2145	354.0	-	-.100		
2200	392.9	-	-.100	10	16
2215	404.2	-	-.096		
2230	406.5	-	-.092		
2245	390.7	-	-.092		
2300	397.4	-	-.092	9	15
2315	395.2	-	-.092		
2330	395.2	-	-.092		
2345	320.3	-	-.096		
2400	-	-	-	12	15

CO₂ content and related dataDay 247
September 4, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	313.0	-	-0.12	12	15
0200	329.0	-	-.12	11	15
0300	345.0	-	-.12	11	15
0400	334.0	-	-.12	11	14
0500	340.0	-	-.12	11	14
0600	334.0	0.06	-.04	12	14
0700	313.0	.26	+.12	15	15
0800	308.0	.36	.24	16	16
0900	313.0	.30	.22	17	17
1000	308.0	.52	.38	19	18
1100	302.0	.64	.42	21	19
1200	297.0	.34	.26	21	20
1300	302.0	.26	.14	21	19
1400	302.0	.24	.08	19	19
1500	302.0	.26	.10	18	19
1600	297.0	.40	.32	19	19
1700	308.0	.06	.00	18	19
1800	313.0	-	-.04	17	18
1900	318.0	-	-	16	17
2000	324.0	-	-	16	17
2100	324.0	-	-	16	17
2200	324.0	-	-	15	17
2300	329.0	-	-	14	17
2400	329.0	-	-	13	16

CO₂ content and related dataDay 250
September 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	414	-	-0.128		
0030	420	-	-.128		
0045	414	-	-.124		
0100	413	-	-.120	1	10
0115	414	-	-.128		
0130	424	-	-.124		
0145	416	-	-.120		
0200	-	-	-	1	9
0215	404	-	-.120		
0230	401	-	-.120		
0245	410	-	-.120		
0300	411	-	-.120	1	9
0315	404	-	-.120		
0330	406	-	-.120		
0345	408	-	-.120		
0400	406	-	-.120	0	9
0415	422	-	-.120		
0430	417	-	-.120		
0445	406	-	-.120		
0500	-	-	-	0	8
0515	416	-	-.120		
0530	420	-	-.120		
0545	406	0.016	-.108		
0600	405	.032	-.100	0	8
0615	404	.041	-.085		
0630	398	.114	-.037		
0645	378	.212	+.024		
0700	374	.278	.082	5	9
0715	365	.348	.149		
0730	361	.428	.216		
0745	355	.500	.277		
0800	353	.571	.350	9	10
0815	348	.763	.419		
0830	341	.708	.481		
0845	338	.771	.537		
0900	335	.836	.603	13	12
0915	334	.896	.652		
0930	331	.947	.709		
0945	331	.996	.761		
1000	329	1.036	.809	16	14
1015	325	1.082	.854		
1030	326	1.121	.897		
1045	323	1.160	.929		
1100	322	1.181	.958	18	16
1115	322	1.215	.997		
1130	320	1.240	1.018		
1145	318	1.242	1.023		

(cont.)

Day 250
September 7, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	316	1.250	1.029	19	18
1215	318	1.248	1.031		
1230	317	1.232	1.018		
1245	313	1.229	1.017		
1300	313	1.207	.996	20	21
1315	313	1.196	.974		
1330	312	1.166	.939		
1345	311	1.145	.901		
1400	311	1.105	.865	20	20
1415	309	1.061	.816		
1430	308	1.012	.770		
1445	309	.981	.732		
1500	306	.928	.670	21	20
1515	306	.865	.595		
1530	305	.770	.400		
1545	302	.745	.177		
1600	304	.684	.348	21	20
1615	302	.597	.330		
1630	301	.539	.274		
1645	301	.473	.205		
1700	298	.392	.137	20	19
1715	298	.274	.035		
1730	302	.157	-.048		
1745	300	.176	-.037		
1800	303	.110	-.086	13	18
1815	316	.053	-.121		
1830	327	.014	-.131		
1845	338	-	-.137		
1900	349	-	-.138	8	17
1915	357.6	-	-.136		
1930	364.2	-	-.136		
1945	365.0	-	-.132		
2000	372.8	-	-.132	7	16
2015	363.9	-	-.132		
2030	381.7	-	-.128		
2045	367.2	-	-.128		
2100	349.6	-	-.128	6	15
2115	366.1	-	-.128		
2130	363.9	-	-.128		
2145	368.3	-	-.128		
2200	380.6	-	-.128	5	14
2215	395.2	-	-.128		
2230	403.1	-	-.128		
2245	404.2	-	-.128		
2300	403.1	-	-.128	4	14
2315	398.6	-	-.128		
2330	403.1	-	-.120		
2345	406.5	-	-.120		
2400	407.6	-	-.132	4	13

CO₂ content and related dataDay 251
September 8, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	406.5	-	-0.120		
0030	390.7	-	-.120		
0045	371.7	-	-.128		
0100	404.2	-	-.120	3	13
0115	406.5	-	-.120		
0130	397.4	-	-.120		
0145	388.4	-	-.120		
0200	-	-	-	3	12
0215	407.6	-	-.120		
0230	406.5	-	-.120		
0245	416.8	-	-.120		
0300	409.9	-	-.120	2	12
0315	414.5	-	-.120		
0330	423.6	-	-.120		
0345	428.2	-	-.116		
0400	425.9	-	-.120	2	12
0415	415.6	-	-.120		
0430	421.3	-	-.120		
0445	425.9	-	-.120		
0500	438.6	-	-.112	1	11
0515	432.8	-	-.112		
0530	441.0	-	-.112		
0545	431.7	0.016	-.108		
0600	429.4	.028	-.088	1	11
0615	427.1	.044	-.072		
0630	416.8	.168	.000		
0645	367.2	.236	+.040		
0700	348.5	.300	.104	8	11
0715	342.0	.376	.168		
0730	336.5	.440	.228		
0745	331.3	.489	.268		
0800	327.9	.566	.337	12	13
0815	326.9	.638	.397		
0830	324.6	.702	.464		
0845	323.1	.769	.525		
0900	320.6	.831	.581	16	15
0915	322.3	.888	.638		
0930	318.5	.942	.692		
0945	317.9	.990	.742		
1000	315.6	1.037	.780	19	16
1015	315.7	1.084	.840		
1030	312.5	1.119	.881		
1045	309.6	1.149	.924		
1100	308.7	1.172	.933	21	18
1115	306.3	1.201	.980		
1130	308.4	1.226	.995		
1145	305.7	1.227	1.009		

(cont.)

Day 251
September 8, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	304.6	1.228	1.014	22	20
1215	303.3	1.222	1.013		
1230	303.1	1.218	1.022		
1245	304.2	1.214	1.003		
1300	304.0	1.190	.984	23	23
1315	304.2	1.169	.957		
1330	302.8	1.144	.921		
1345	301.4	1.114	.886		
1400	299.5	1.075	.855	24	23
1415	301.0	1.036	.803		
1430	300.1	1.001	.750		
1445	297.8	.678	.694		
1500	299.9	.864	.639	24	22
1515	299.6	.781	.580		
1530	299.9	.727	.436		
1545	301.0	.572	.050		
1600	-	.585	.328	24	22
1615	-	.536	.318		
1630	-	.344	.122		
1645	292.8	.426	.216		
1700	291.9	.269	.075	23	22
1715	294.2	.210	.024		
1730	294.2	.146	-.017		
1745	297.7	.078	-.063		
1800	304.5	.054	-.081	16	21
1815	321.7	.022	-.108		
1830	337.0	.010	-.111		
1845	356.5	-	-.112		
1900	376.6	-	-.114	13	19
1915	388.4	-	-.112		
1930	399.7	-	-.100		
1945	406.5	-	-.100		
2000	399.7	-	-.100	11	18
2015	415.6	-	-.088		
2030	414.5	-	-.092		
2045	411.1	-	-.100		
2100	-	-	-	10	17
2115	415.6	-	-.104		
2130	423.6	-	-.108		
2145	427.1	-	-.100		
2200	-	-	-	9	16
2215	409.9	-	-.108		
2230	415.6	-	-.100		
2245	414.5	-	-.100		
2300	-	-	-	9	15
2315	413.3	-	-.100		
2330	397.4	-	-.100		
2345	386.2	-	-.100		
2400	370.6	-	-.092	11	14

CO₂ content and related dataDay 252
September 9, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	382.8	-	-0.100		
0030	365.0	-	-.100		
0045	345.2	-	-.100		
0100	333.3	-	-.100	13	13
0115	336.5	-	-.100		
0130	334.4	-	-.112		
0145	332.2	-	-.108		
0200	331.1	-	-.108	13	13
0215	333.3	-	-.100		
0230	332.2	-	-.100		
0245	334.4	-	-.108		
0300	333.3	-	-.108	13	13
0315	332.2	-	-.096		
0330	332.2	-	-.100		
0345	331.1	-	-.092		
0400	331.1	-	-.080	13	13
0415	332.2	-	-.076		
0430	332.2	-	-.080		
0445	332.2	-	-.072		
0500	332.2	-	-.068	13	13
0515	336.5	-	-.068		
0530	333.3	-	-.068		
0545	337.6	0.008	-.068		
0600	334.4	.028	-.032	13	13
0615	332.2	.044	-.016		
0630	331.1	.060	+.008		
0645	327.9	.104	.032		
0700	324.6	.148	.072	15	14
0715	325.7	.168	.096		
0730	322.5	.256	.184		
0745	318.2	.288	.208		
0800	322.5	.236	.168	16	15
0815	318.2	.384	.300		
0830	322.5	.248	.168		
0845	321.4	.368	.264		
0900	318.5	.519	.412	17	16
0915	317.1	.524	.425		
0930	316.2	.634	.569		
0945	316.8	.597	.511		
1000	313.2	.638	.552	20	17
1015	312.1	.615	.524		
1030	309.5	.802	.678		
1045	308.7	.499	.417		
1100	308.2	.435	.364	21	18
1115	308.1	.476	.405		
1130	305.4	.447	.385		
1145	304.9	.468	.404		

(cont.)

Day 252
September 9, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	304.8	0.546	0.486	21	19
1215	301.4	.785	.727		
1230	301.6	.795	.736		
1245	301.7	.622	.538		
1300	303.3	.556	.502	22	20
1315	304.6	.373	.308		
1330	304.0	.514	.446		
1345	303.6	.330	.225		
1400	306.6	.249	.073	21	20
1415	305.2	.325	.271		
1430	305.5	.285	.237		
1445	306.4	.314	.252		
1500	306.1	.311	.250	21	20
1515	306.6	.245	.198		
1530	308.6	.133	.089		
1545	303.1	.065	.022		
1600	305.4	.093	.058	20	19
1615	307.7	.086	.060		
1630	308.4	.148	.108		
1645	308.6	.122	.080		
1700	309.3	.085	.045	20	19
1715	309.8	.053	.020		
1730	311.3	.031	.005		
1745	311.3	.025	-.001		
1800	311.6	.017	-.009	20	18
1815	313.1	.017	-.013		
1830	313.6	-	-.025		
1845	313.9	-	-.028		
1900	314.5	-	-.018	20	18
1915	314.7	-	-.021		
1930	315.0	-	-.020		
1945	315.0	-	-.012		
2000	-	-	-	20	18
2015	316.0	-	-.028		
2030	316.0	-	-.020		
2045	321.4	-	-.048		
2100	321.4	-	-.016	20	18
2115	322.5	-	-.028		
2130	321.4	-	-.040		
2145	321.4	-	-.024		
2200	318.2	-	-.012	20	18
2215	322.5	-	-.012		
2230	322.5	-	-.008		
2245	325.7	-	-.012		
2300	327.9	-	-.012	20	18
2315	323.6	-	-.012		
2330	322.5	-	-.016		
2345	318.2	-	-.016		
2400	318.2	-	-.012	20	18

CO₂ content and related data

Day 253
September 10, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0015	320.3	-	-0.012		
0030	318.2	-	-.016		
0045	322.5	-	-.016		
0100	318.2	-	-.020	20	17
0115	318.2	-	-.020		
0130	318.2	-	-.052		
0145	321.4	-	-.052		
0200	321.4	-	-.080	20	17
0215	322.5	-	-.052		
0230	322.5	-	-.032		
0245	322.5	-	-.020		
0300	321.4	-	-.032	20	17
0315	324.6	-	-.072		
0330	322.5	-	-.044		
0345	324.6	-	-.020		
0400	324.6	-	-.048	20	17
0415	323.6	-	-.040		
0430	323.6	-	-.036		
0445	323.6	-	-.032		
0500	323.6	-	-.052	20	17
0515	326.8	-	-.048		
0530	326.8	-	-.028		
0545	327.9	-	-.028		
0600	326.8	0.016	-.012	20	17
0615	323.4	.031	-.004		
0630	322.6	.056	+.022		
0645	322.2	.094	.048		
0700	321.9	.157	.123	21	18
0715	321.4	.116	.084		
0730	320.6	.162	.128		
0745	321.4	.077	.059		
0800	320.5	.094	.077	22	18
0815	320.5	.100	.081		
0830	318.2	.130	.105		
0845	314.2	.260	.223		
0900	312.0	.248	.212	23	19
0915	310.2	.318	.263		
0930	306.4	.423	.332		
0945	308.9	.504	.402		
1000	305.2	.825	.742	25	20
1015	303.6	.688	.644		
1030	300.7	1.056	1.017		
1045	302.7	.927	.906		
1100	297.4	1.060	1.024	28	22
1115	301.4	.872	.814		
1130	299.9	.502	.469		
1145	297.5	.593	.521		

(cont.)

Day 253
September 10, 1962

Time (EST)	CO ₂ (ppm)	R _d (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
1200	294.0	0.659	0.613	28	23
1215	291.6	.678	.669		
1230	292.2	.870	.850		
1245	293.1	1.134	1.172		
1300	291.5	1.160	1.093	29	23
1315	296.2	.756	.709		
1330	297.1	.233	.163		
1345	305.1	.045	-		
1400	306.3	.024	-	22	22
1415	306.6	.033	-		
1430	307.4	.021	-		
1445	308.0	.016	-		
1500	308.4	.027	-	21	22
1515	310.7	.046	-		
1530	304.3	.049	-		
1545	305.4	.057	-		
1600	307.4	.049	-	21	21
1615	308.7	.044	-		
1630	310.2	.055	-		
1645	307.7	.138	-		
1700	302.0	.157	-	22	21
1715	303.0	.133	-		
1730	304.9	.099	-.106		
1745	304.2	.048	-.084		
1800	306.8	.040	-.055	22	21
1815	307.5	.024	-.090		
1830	310.4	.016	-.072		
1845	318.2	.008	-.072		
1900	318.2	.008	-.080	22	20
1915	322.5	-	-.108		
1930	320.3	-	-.052		
1945	322.5	-	-.052		
2000	323.6	-	-.052	22	20
2015	323.6	-	-.064		
2030	323.6	-	-.040		
2045	322.5	-	-.072		
2100	322.5	-	-.100	22	20
2115	324.6	-	-.120		
2130	323.6	-	-.112		
2145	334.4	-	-.048		
2200	329.0	-	-.040	22	20
2215	321.4	-	-		
2230	322.5	-	-		
2245	311.8	-	-		
2300	309.6	-	-	20	20
2315	310.7	-	-		
2330	310.7	-	-		
2345	317.1	-	-		
2400	315.0	-	-	19	20

CO₂ content and related dataDay 254
September 11, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	317.1	-	-			
0030	312.8	-	-			
0045	316.0	-	-			
0100	320.3	-	-	19	20	
0115	313.9	-	-			
0130	320.3	-	-			
0145	318.2	-	-			
0200	316.0	-	-	16	19	
0215	329.0	-	-0.196			
0230	329.0	-	-.188			
0245	343.1	-	-.180			
0300	334.4	-	-.180	13	18	
0315	347.4	-	-.180			
0330	367.2	-	-.180			
0345	370.6	-	-.176			
0400	380.6	-	-.100	11	17	
0415	387.3	-	-.176			
0430	412.2	-	-.176			
0445	399.7	-	-.176			
0500	398.6	-	-.172	10	16	
0515	403.1	-	-.172			
0530	359.5	-	-.160			
0545	338.7	0.008	-.156			
0600	323.6	.024	-.140	12	16	
0615	319.3	.036	-.122			
0630	319.0	.068	-.098			
0645	313.0	.165	-.030			
0700	310.4	.230	+.031	14	16	
0715	307.9	.293	.098			
0730	306.7	.364	.164			
0745	303.0	.434	.234			
0800	303.4	.509	.311	16	17	
0815	301.1	.577	.422			
0830	301.7	.282	.197			
0845	304.2	.165	.098			
0900	306.0	.240	.184	16	17	
0915	303.4	.218	.162			
0930	306.4	.145	.092			
0945	306.4	.175	.121			
1000	308.7	.155	.100	16	17	
1015	309.3	.177	.112			
1030	309.5	.204	.133			
1045	310.2	.179	.119			
1100	312.1	.308	.253	16	17	
1115	307.7	.620	.522			
1130	311.3	.113	.057			
1145	313.6	.128	.070			

(cont.)

Day 254
September 11, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	313.6	0.106	0.058	16	17	
1215	314.4	.106	.058			
1230	314.7	.110	.065			
1245	314.4	.083	-.058			
1300	314.7	.080	+.017	15	17	
1315	311.2	.108	.051			
1330	315.9	.071	-.064			
1345	317.6	.230	+.092			
1400	313.6	.217	.117	16	17	
1415	314.7	.266	.129			
1430	313.3	.476	.327			
1445	-	.500	.431			
1500	313.0	.416	.359	17	18	
1515	-	.751	.681			437
1530	-	.265	.200			364
1545	-	.148	.078			361
1600	302.0	.120	.066	17	18	409
1615	-	.073	.032			389
1630	303.3	.087	.044			358
1645	304.3	.083	.042			376
1700	304.7	.063	.016	17	17	378
1715	305.5	.041	.001			414
1730	304.6	.038	-.002			384
1745	305.1	.038	-.004			360
1800	305.7	.013	-.021	17	17	260
1815	304.8	-	-.032			280
1830	305.8	-	-.036			208
1845	307.1	-	-.040			257
1900	307.1	-	-.068	16	17	288
1915	307.2	-	-.072			276
1930	308.6	-	-.052			199
1945	312.8	-	-.032			114
2000	312.8	-	-.032	16	16	129
2015	316.0	-	-.032			102
2030	317.1	-	-.028			102
2045	313.9	-	-.032			127
2100	319.3	-	-.032	16	16	125
2115	318.2	-	-.028			77
2130	346.3	-	-.028			52
2145	312.8	-	-.032			142
2200	311.8	-	-.032	16	16	193
2215	312.8	-	-.040			214
2230	311.8	-	-.040			201
2245	313.9	-	-.036			189
2300	309.6	-	-.032	16	16	178
2315	313.9	-	-.036			117
2330	323.6	-	-.032			124
2345	327.9	-	-.028			92
2400	325.7	-	-.032	15	16	71

CO₂ content and related dataDay 255
September 12, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	369.5	-	-0.028			50
0030	397.4	-	-.028			43
0045	413.3	-	-.032			30
0100	437.5	-	-.032	14	16	29
0115	397.4	-	-.032			61
0130	363.9	-	-.028			83
0145	346.3	-	-.032			102
0200	331.7	-	-.028	15	16	115
0215	338.7	-	-.032			91
0230	356.2	-	-.032			101
0245	343.1	-	-.040			74
0300	319.3	-	-.040	15	16	154
0315	320.3	-	-.036			127
0330	317.1	-	-.040			126
0345	321.4	-	-.040	15	16	127
0400	321.4	-	-.032			94
0415	318.2	-	-.032			100
0430	317.1	-	-.036			110
0445	325.7	-	-.052			96
0500	312.8	-	-.032	14	16	103
0515	316.0	-	-.056			116
0530	316.0	0.008	-.032			108
0545	318.2	.016	-.052			107
0600	322.5	.018	-.044	14	16	105
0615	317.6	.032	-.039			128
0630	312.2	.069	-.008			171
0645	307.1	.112	-.009			216
0700	306.3	.087	-.045	15	16	208
0715	304.2	.169	+.060			237
0730	301.9	.215	.125			288
0745	304.6	.159	.124			264
0800	302.0	.288	.154	16	16	364
0815	301.7	.415	.320			357
0830	300.5	.330	.253			364
0845	301.1	.268	.240			319
0900	299.5	.519	.444	17	17	366
0915	297.4	.561	.501			376
0930	293.1	.865	.834			364
0945	291.0	.856	.812			400
1000	290.1	.787	.784	18	18	369
1015	289.8	.895	.778			465
1030	289.1	.816	.686			380
1045	288.3	.921	.899			408
1100	286.6	1.130	1.045	19	19	408
1115	286.1	1.149	1.060			385
1130	284.6	1.141	1.031			398
1145	279.7	1.176	1.042			491

(cont.)

Day 255
September 12, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	278.9	1.236	1.034	20	21	428
1215	277.3	1.224	.971			390
1230	277.4	1.213	.969			400
1245	-	1.205	.956			414
1300	297.6	1.190	.924	21	22	421
1315	298.1	1.162	.905			358
1330	299.3	1.136	.871			383
1345	290.7	1.098	.832			337
1400	291.5	1.054	.790	22	21	318
1415	293.4	1.012	.757			390
1430	292.7	.962	.706			403
1445	297.4	.912	.648			402
1500	296.9	.862	.604	23	21	405
1515	295.6	.796	.543			339
1530	295.0	.729	.468			339
1545	293.4	.668	.153			352
1600	293.9	.592	.253	23	21	311
1615	291.5	.526	.274			225
1630	292.8	.456	.210			194
1645	294.6	.394	.155			220
1700	293.9	.323	.088	23	20	162
1715	292.8	.249	.026			110
1730	295.1	.181	-.025			57
1745	310.1	.118	-.066			60
1800	324.0	.069	-.101	17	20	38
1815	343.1	.029	-.118			36
1830	361.7	.015	-.128			25
1845	360.3	.013	-.129			29
1900	391.3	.012	-.129	14	18	57
1915	396.0	.010	-.129			59
1930	415.6	.016	-.132			88
1945	429.4	.008	-.120			36
2000	438.6	-	-.116	12	17	68
2015	411.1	-	-.120			96
2030	432.8	-	-.120			84
2045	435.2	-	-.120			91
2100	450.3	-	-.120	10	16	84
2115	444.4	-	-.120			94
2130	421.5	-	-.120			94
2145	386.2	-	-.124			102
2200	389.6	-	-.128	10	16	92
2215	439.8	-	-.120			81
2230	454.9	-	-.120			100
2245	441.0	-	-.120			85
2300	-	-	-	9	15	84
2315	458.4	-	-.112			40
2330	474.9	-	-.108			68
2345	460.8	-	-.108			119
2400	429.4	-	-.112	10	15	123

CO₂ content and related data

Day 256
September 13, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	462.0	-	-0.104			110
0030	425.9	-	-.104			99
0045	432.8	-	-.108			107
0100	429.4	-	-.104	9	15	74
0115	438.6	-	-.104			82
0130	431.7	-	-.104			104
0145	422.5	-	-.108			129
0200	397.4	-	-.108	9	14	141
0215	386.2	-	-.100			136
0230	430.5	-	-.108			90
0245	434.0	-	-.104			79
0300	446.8	-	-.108	8	14	83
0315	444.4	-	-.104			66
0330	436.3	-	-.104			90
0345	434.0	-	-.104			91
0400	407.6	-	-.104	8	14	98
0415	412.2	-	-.100			100
0430	428.2	-	-.104			101
0445	400.8	-	-.108			100
0500	414.5	-	-.100	7	14	100
0515	338.7	-	-.112			127
0530	337.6	-	-.108			192
0545	334.4	-	-.108			199
0600	334.0	0.016	-.097	11	14	199
0615	332.7	.031	-.084			194
0630	329.6	.066	-.055			191
0645	324.2	.154	-.006			185
0700	321.6	.212	+.042	13	14	176
0715	317.0	.282	.099			197
0730	309.3	.352	.161			174
0745	305.8	.419	.220			204
0800	304.7	.486	.281	17	15	192
0815	301.6	.564	.344			183
0830	297.4	.626	.403			192
0845	296.5	.686	.462			162
0900	293.1	.741	.513	21	16	197
0915	292.2	.803	.567			217
0930	291.2	.852	.615			231
0945	290.7	.901	.662			218
1000	285.2	.949	.699	24	18	230
1015	280.9	.996	.737			248
1030	278.3	1.030	.777			188
1045	275.2	1.056	.809			174
1100	278.2	1.082	.846	26	20	207
1115	278.8	1.105	.845			248
1130	281.2	1.130	.884			206
1145	276.4	1.139	.894			194

(cont.)

Day 256
September 13, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	280.3	1.139	0.900	28	22	247
1215	278.8	1.145	.906			229
1230	279.2	1.137	.892			252
1245	280.6	1.127	.870			235
1300	277.6	1.098	.860	29	23	193
1315	276.2	1.083	.846			219
1330	275.2	1.053	.805			170
1345	277.3	1.022	.783			221
1400	277.3	.996	.754	30	23	227
1415	276.0	.950	.684			211
1430	274.5	.906	.668			235
1445	276.5	.865	.612			216
1500	276.1	.820	.576	30	23	188
1515	273.0	.764	.518			207
1530	273.0	.702	.454			196
1545	272.2	.638	.220			189
1600	273.6	.559	.227	29	23	191
1615	273.7	.492	.279			133
1630	270.8	.410	.208			92
1645	268.2	.334	.146			97
1700	269.1	.268	.092	27	22	50
1715	269.6	.206	.045			90
1730	279.5	.153	.008			78
1745	279.1	.120	-.016			110
1800	308.0	.020	-.080	21	21	182
1815	-	-	-			145
1830	-	-	-			119
1845	-	-	-			123
1900	351.0	-	-.080	18	20	121
1915	-	-	-			133
1930	-	-	-			110
1945	-	-	-			93
2000	334.0	-	-.100	19	19	97
2015	301.1	-	-.080			208
2030	281.2	-	-.100			381
2045	284.3	-	-.104			317
2100	286.4	-	-.092	23	19	246
2115	294.8	-	-.072			155
2130	305.4	-	-.072			143
2145	318.2	-	-.072			126
2200	306.4	-	-.072	20	19	157
2215	318.2	-	-.084			149
2230	299.0	-	-.080			163
2245	307.5	-	-.080			130
2300	299.0	-	-.072	20	19	143
2315	293.7	-	-.048			152
2330	302.2	-	-.008			122
2345	301.1	-	-.040			140
2400	296.9	-	.060	20	18	180

CO₂ content and related data

Day 257
September 14, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	302.2	-	-0.072			132
0030	296.9	-	-.072			225
0045	294.8	-	-.060			180
0100	302.2	-	-.088	20	18	188
0115	305.4	-	-.080			157
0130	334.4	-	-.068			134
0145	361.7	-	-.028			138
0200	354.0	-	-.004	17	18	127
0215	361.7	-	-.028			110
0230	305.4	-	-.016			149
0245	304.3	-	.000			123
0300	325.7	-	-.060	18	18	98
0315	354.0	-	-.052			96
0330	406.5	-	-.056			52
0345	387.3	-	-.080			87
0400	427.1	-	-.076	15	17	76
0415	437.5	-	-.084			121
0430	427.1	-	-.080			50
0445	445.6	-	-.080			52
0500	469.0	-	-.092	13	17	53
0515	484.4	-	-.080			50
0530	-	-	-			86
0545	477.3	0.008	-.080			0
0600	457.3	.020	-.068	13	16	78
0615	430.0	.033	-.052			38
0630	443.1	.068	-.028			68
0645	412.9	.163	+.026			70
0700	365.2	.222	.076	17	16	40
0715	336.1	.309	.158			83
0730	305.8	.395	.234			-
0745	293.7	.460	.313			-
0800	292.9	.339	.260	21	18	-
0815	289.8	.225	.181			-
0830	290.7	.249	.192			-
0845	286.4	.250	.182			-
0900	290.9	.105	.061	21	18	-
0915	304.5	.067	.037			-
0930	307.1	.071	.041			-
0945	313.3	.059	.031			-
1000	324.5	.083	.052	21	18	-
1015	318.6	.099	.065			-
1030	310.7	.089	.056			-
1045	312.7	.063	.045			-
1100	319.1	.046	.034	21	19	-
1115	322.9	.065	.045			-
1130	316.5	.107	-			-
1145	308.3	.130	-			-

(cont.)

Day 257
September 14, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	307.4	0.146	-	20	19	-
1215	306.0	.142	-			-
1230	309.9	.050	-			-
1245	313.6	.098	-			-
1300	311.2	.097	-	19	19	34
1315	-	.042	-			276
1330	-	.037	-			116
1345	318.0	.053	-			123
1400	321.7	.078	-	17	19	136
1415	320.3	.206	-			118
1430	315.6	.365	-			175
1445	321.7	.494	-			172
1500	325.1	.688	-	20	19	199
1515	322.6	.814	-			159
1530	320.8	.750	-			225
1545	313.8	.690	-			307
1600	312.5	.629	-	22	20	365
1615	313.1	.561	0.293			431
1630	313.0	.488	.222			367
1645	-	-	-			326
1700	324.0	.280	+ .060	21	19	342
1715	-	-	-			277
1730	-	-	-			241
1745	-	-	-			198
1800	345.0	.020	-.140	16	18	134
1815	-	-	-			118
1830	-	-	-			65
1845	-	-	-			32
1900	418.0	-	-.140	11	17	62
1915	417.9	-	-.128			27
1930	441.0	-	-.120			50
1945	437.5	-	-.124			66
2000	432.8	-	-.128	9	16	49
2015	449.1	-	-.120			44
2030	437.5	-	-.132			59
2045	427.1	-	-.128			70
2100	450.3	-	-.128	8	15	44
2115	452.6	-	-.132			47
2130	452.6	-	-.132			70
2145	456.1	-	-.132			91
2200	459.6	-	-.132	6	14	55
2215	469.0	-	-.132			56
2230	456.1	-	-.132			51
2245	463.1	-	-.132			66
2300	472.6	-	-.132	5	13	37
2315	463.1	-	-.136			23
2330	458.4	-	-.132			60
2345	446.8	-	-.132			64
2400	473.7	-	-.128	4	13	59

CO₂ content and related data

Day 258
September 15, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	466.7	-	-0.128			74
0030	466.7	-	-.124			56
0045	-	-	-			70
0100	464.3	-	-.124	4	12	103
0115	460.8	-	-.124			88
0130	458.4	-	-.124			86
0145	454.9	-	-.124			64
0200	458.4	-	-.120	4	12	81
0215	449.1	-	-.120			104
0230	457.3	-	-.124			114
0245	449.1	-	-.124			106
0300	-	-	-	3	11	106
0315	462.0	-	-.124			100
0330	446.8	-	-.124			75
0345	451.4	-	-.120			61
0400	470.2	-	-.124	3	11	81
0415	466.7	-	-.124			62
0430	472.6	-	-.120			69
0445	464.3	-	-.112			117
0500	-	-	-	2	10	94
0515	464.3	-	-.124			102
0530	467.8	-	-.116			59
0545	460.8	-	-.108			106
0600	444.4	0.024	-.092	2	10	74
0615	449.1	.044	-.080			94
0630	435.2	.144	-.016			96
0645	421.3	.204	+.028			73
0700	394.1	.288	.084	5	10	48
0715	378.4	.356	.140			60
0730	370.6	.424	.196			101
0745	359.5	.500	.260			109
0800	347.4	.580	.324	12	11	90
0815	346.3	.644	.388			55
0830	338.7	.704	.440			48
0845	321.4	.768	.504			59
0900	320.3	.836	.564	16	13	134
0915	310.7	.904	.648			191
0930	321.4	.948	.680			242
0945	315.0	1.000	.716			234
1000	310.7	1.048	.780	19	15	236
1015	310.7	1.088	.804			239
1030	316.0	1.136	.860			269
1045	313.9	1.160	.900			266
1100	310.7	1.204	.964	20	17	344
1115	305.4	1.220	.948			314
1130	311.8	1.268	1.028			325
1145	309.6	1.284	1.028			354

(cont.)

Day 258
September 15, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	310.7	1.292	1.060	21	19	357
1215	307.5	1.272	1.012			331
1230	307.5	.904	.816			371
1245	310.7	1.024	1.044			401
1300	306.4	1.352	1.120	22	20	353
1315	310.7	.316	.108			312
1330	307.5	1.148	.708			308
1345	307.5	1.116	.868			348
1400	309.6	1.048	.780	22	20	396
1415	310.7	1.008	.732			361
1430	310.7	.944	.676			391
1445	307.5	.896	.620			380
1500	309.6	.828	.564	21	20	348
1515	308.6	.776	.500			383
1530	307.5	.708	.416			330
1545	308.6	.640	.084			379
1600	-	-	-	21	19	363
1615	310.7	.508	.240			337
1630	310.7	.432	.176			387
1645	310.7	.356	.104			324
1700	310.7	.280	.044	19	18	316
1715	311.8	.204	-.008			268
1730	315.0	.140	-.060			278
1745	317.1	.080	-.120			267
1800	320.3	.036	-.128	16	17	233
1815	321.4	-	-.140			168
1830	327.9	-	-.132			134
1845	324.4	-	-.140			140
1900	345.2	-	-.132	12	16	133
1915	345.2	-	-.132			160
1930	343.1	-	-.128			170
1945	345.2	-	-.124			171
2000	347.4	-	-.128	11	15	174
2015	354.0	-	-.116			155
2030	367.2	-	-.116			107
2045	380.6	-	-.120			88
2100	386.2	-	-.120	9	14	92
2115	411.7	-	-.120			80
2130	399.7	-	-.120			110
2145	399.7	-	-.120			77
2200	411.1	-	-.120	7	13	45
2215	427.1	-	-.120			64
2230	430.5	-	-.120			68
2245	432.8	-	-.120			43
2300	432.8	-	-.116	6	13	77
2315	420.2	-	-.120			78
2330	425.9	-	-.116			82
2345	445.6	-	-.112			44
2400	439.8	-	-.112	5	12	80

Day 259
September 16, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	319.3	1.308	.908	18	19	202
1215	316.0	1.236	.956			135
1230	318.2	1.228	.948			207
1245	318.2	1.212	.900			188
1300	316.0	1.184	.900	19	19	140
1315	310.7	1.164	.864			213
1330	316.0	1.124	.828			162
1345	312.8	1.104	.824			217
1400	315.0	1.048	.756	19	19	155
1415	312.8	1.012	.704			185
1430	312.8	.956	.644			150
1445	312.8	.904	.608			133
1500	310.7	.836	.548	20	19	150
1515	309.6	.704	.412			110
1530	301.1	.724	.412			145
1545	309.6	-	.016			120
1600	304.3	.576	.244	20	19	132
1615	304.3	.508	.236			150
1630	302.2	.428	.168			97
1645	300.1	.284	.052			75
1700	300.1	.264	.036	18	18	84
1715	304.3	.244	.024			70
1730	296.9	.156	-.028			71
1745	306.4	.084	-.092			52
1800	320.3	.028	-.104	12	17	71
1815	334.4	.012	-.112			50
1830	344.1	-	-.116			61
1845	359.5	-	-.112			55
1900	370.6	-	-.112	9	16	53
1915	359.5	-	-.108			104
1930	386.2	-	-.100			90
1945	380.6	-	-.108			60
2000	388.4	-	-.100	8	-	103
2015	347.4	-	-.096			172
2030	355.1	-	-.096			164
2045	343.1	-	-.096			186
2100	348.5	-	-.100	11	-	194
2115	355.1	-	-.100			188
2130	354.0	-	-.100			185
2145	361.7	-	-.100			181
2200	359.5	-	-.100	11	-	202
2215	343.1	-	-.096			183
2230	354.0	-	-.096			180
2245	354.0	-	-.096			152
2300	352.9	-	-.092	12	-	148
2315	352.9	-	-.092			161
2330	352.9	-	-.096			180
2345	348.5	-	-.096			177
2400	346.3	-	-.088	13	-	184

CO₂ content and related data

Day 259
September 16, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	437.5	-	-0.112			93
0030	434.0	-	-.112			86
0045	450.3	-	-.112			85
0100	429.4	-	-.112	4	12	96
0115	450.3	-	-.112			63
0130	415.6	-	-.112			41
0145	439.8	-	-.112			83
0200	432.8	-	-.112	3	11	21
0215	458.4	-	-.112			75
0230	408.3	-	-.108			79
0245	439.8	-	-.108			96
0300	446.8	-	-.112	3	11	78
0315	458.4	-	-.112			94
0330	450.3	-	-.108			77
0345	437.5	-	-.108			68
0400	454.9	-	-.108	2	10	69
0415	454.9	-	-.100			80
0430	432.8	-	-.092			51
0445	449.1	-	-.108			89
0500	441.0	-	-.108	2	10	86
0515	452.6	-	-.108			71
0530	463.1	-	-.036			61
0545	450.3	0.008	-.008			37
0600	429.4	.016	-.028	4	10	58
0615	432.8	.044	-.008			55
0630	408.8	.076	.000			69
0645	400.8	.216	.024			89
0700	395.2	.284	.076	7	10	64
0715	381.7	.360	.136			38
0730	369.5	.444	.196			49
0745	360.6	.516	.260			83
0800	355.1	.580	.324	12	12	70
0815	347.4	.644	.384			57
0830	343.1	.720	.436			112
0845	338.7	.800	.520			152
0900	339.8	.864	.576	14	13	157
0915	337.6	.944	.636			149
0930	336.5	1.044	.708			166
0945	329.0	1.176	.908			205
1000	326.8	1.116	.804	16	15	224
1015	323.6	1.148	.844			164
1030	324.6	1.216	.904			166
1045	322.5	1.244	.924			204
1100	319.3	1.348	1.072	18	17	201
1115	320.3	1.420	1.140			147
1130	320.3	.344	.168			187
1145	320.3	1.284	.996			176

(cont.)

CO₂ content and related dataDay 262
September 19, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	323.6	-	-.132			106
0030	324.6	-	-.140			100
0045	321.4	-	-.152			117
0100	330.0	-	-.140	6	10	120
0115	331.1	-	-.140			136
0130	333.3	-	-.140			128
0145	334.4	-	-.148			156
0200	347.4	-	-.136	4	9	138
0215	355.7	-	-.132			118
0230	358.4	-	-.072			108
0245	345.2	-	-.120			130
0300	349.6	-	-.136	4	9	123
0315	337.6	-	-.140			138
0330	342.6	-	-.136			126
0345	349.6	-	-.140			112
0400	348.6	-	-.136	2	9	109
0415	352.9	-	-.132			173
0430	346.3	-	-.132			162
0445	350.7	-	-.136			169
0500	350.7	-	-.140	2	8	117
0515	361.7	-	-.132			103
0530	356.2	-	-.140			128
0545	361.7	-	-.128			127
0600	361.7	0.024	-.100	1	8	81
0615	366.1	.044	-.052			76
0630	355.1	.056	-.012			58
0645	338.7	.044	-.020			81
0700	332.2	.124	.044	5	8	79
0715	329.0	.108	.028			67
0730	321.4	.076	.000			82
0745	315.0	.164	.068			84
0800	310.7	.192	.096	9	9	64
0815	306.4	.176	.048			65
0830	305.4	.436	.112			49
0845	303.3	.544	.236			101
0900	303.3	.376	.208	11	11	120
0915	302.2	.600	.456			256
0930	301.1	.468	.316			253
0945	296.9	.404	.256			237
1000	301.1	.464	.308	13	12	196
1015	291.6	.304	.180			203
1030	295.9	.300	.180			237
1045	300.1	.240	.152			236
1100	291.6	.484	.356	13	12	144
1115	296.9	.144	-			179
1130	301.1	.056	-			241
1145	304.3	.204	-			239

(cont.)

Day 262
September 19, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	300.1	0.424	-	10	12	186
1215	294.8	.512	-			126
1230	293.7	.436	-			156
1245	291.6	.716	-			113
1300	291.6	1.176	-	12	13	139
1315	289.5	1.164	-			139
1330	293.7	.064	-			124
1345	291.6	.228	-			257
1400	288.5	1.300	-	10	13	132
1415	284.3	.148	-			91
1430	289.5	.168	-			72
1445	286.4	.216	-			132
1500	288.5	.224	-	11	13	183
1515	291.6	.244	-			241
1530	291.6	.160	-0.080			347
1545	291.6	.224	.104			282
1600	294.8	.108	.020	10	13	242
1615	295.9	.100	.016			332
1630	296.9	.060	.000			239
1645	296.9	.084	.008			111
1700	298.0	.064	-.008	10	12	167
1715	300.1	.044	-.012			199
1730	302.2	.032	-.020			176
1745	304.3	.008	-.020			144
1800	310.7	-	-	9	12	75
1815	312.8	-	-			80
1830	321.4	-	-			168
1845	307.5	-	-			276
1900	309.6	-	-	7	11	209
1915	310.7	-	-			183
1930	312.8	-	-			118
1945	317.1	-	-			84
2000	323.6	-	-	6	11	22
2015	343.1	-	-			33
2030	354.0	-	-			51
2045	344.1	-	-			46
2100	347.4	-	-	5	10	42
2115	336.5	-	-			20
2130	345.2	-	-			76
2145	329.0	-	-			70
2200	345.2	-	-	3	9	78
2215	343.1	-	-			35
2230	350.7	-	-			52
2245	357.3	-	-			20
2300	361.7	-	-	2	9	24
2315	358.4	-	-			66
2330	361.7	-	-			99
2345	368.3	-	-			73
2400	372.8	-	-	1	8	44

Day 263
September 20, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	311.2	0.457	-	5	10	280
1215	313.1	.521	-			272
1230	312.8	.623	-			246
1245	311.3	.419	-			258
1300	314.5	.185	-	4	11	341
1315	313.9	.296	-			335
1330	313.8	.329	-			256
1345	313.5	.424	-			278
1400	313.1	1.099	-	6	11	248
1415	310.9	.461	-			253
1430	312.4	.440	-			249
1445	316.2	.204	-			345
1500	314.1	.240	-	5	11	237
1515	312.7	.372	-			253
1530	312.5	.216	-			252
1545	315.0	.156	-			278
1600	315.1	.170	-	5	10	238
1615	316.2	.062	-			240
1630	316.4	.142	-			240
1645	317.7	.143	0.029			248
1700	318.3	.091	.006	6	10	255
1715	318.5	.082	-.010			249
1730	320.8	.053	-.020			250
1745	322.3	.025	-.040			230
1800	324.3	-	-.046	5	9	151
1815	324.3	-	-.082			137
1830	329.9	-	-.149			107
1845	344.1	-	-.120			52
1900	345.2	-	-.092	3	8	26
1915	347.4	-	-.144			52
1930	348.5	-	-.092			71
1945	352.9	-	-.088			96
2000	-	-	-	2	8	30
2015	350.7	-	-.068			42
2030	349.6	-	-.056			63
2045	352.9	-	-.060			67
2100	352.9	-	-.060	2	7	36
2115	354.0	-	-.052			52
2130	354.0	-	-.048			28
2145	354.0	-	-.048			-
2200	354.0	-	-.056	2	7	30
2215	358.4	-	-.056			61
2230	358.4	-	-.100			52
2245	363.9	-	-.120			57
2300	370.6	-	-.132	1	7	48
2315	375.0	-	-.160			54
2330	382.8	-	-.152			59
2345	384.0	-	-.108			67
2400	371.7	-	-.068	0	6	65

CO₂ content and related data

Day 263
September 20, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	378.4	-	-			54
0030	391.8	-	-			40
0045	386.2	-	-			88
0100	362.8	-	-	2	8	63
0115	378.4	-	-			67
0130	380.6	-	-			40
0145	386.2	-	-			66
0200	380.6	-	-	1	8	101
0215	361.7	-	-			174
0230	329.0	-	-			232
0245	324.6	-	-0.168			213
0300	325.7	-	-0.060	3	8	141
0315	324.6	-	-0.048			142
0330	323.6	-	-0.056			201
0345	323.6	-	-0.048			182
0400	323.6	-	-0.040	3	8	150
0415	323.6	-	-0.040			169
0430	325.7	-	-0.048			161
0445	323.6	-	-0.044			148
0500	325.7	-	-0.064	3	8	108
0515	327.9	-	-0.056			109
0530	330.3	-	-0.080			88
0545	327.9	-	-0.060			140
0600	327.9	0.008	-0.064	4	8	132
0615	324.6	.036	-0.040			99
0630	325.7	.052	-0.016			105
0645	324.2	.055	-0.026			118
0700	322.9	.045	-0.022	5	8	107
0715	321.4	.072	.008			111
0730	317.3	.112	-.036			142
0745	314.2	.154	.005			140
0800	314.2	.193	.096	6	9	227
0815	313.8	.217	.079			236
0830	312.7	.582	.391			273
0845	313.0	.211	.126			268
0900	314.7	.245	.140	7	9	229
0915	312.7	.138	.032			315
0930	315.4	.064	-			308
0945	316.7	.099	-			262
1000	316.7	.130	-	6	9	262
1015	315.1	.150	-			299
1030	314.8	.108	-			356
1045	315.7	.239	-			355
1100	314.7	.364	-	5	9	262
1115	314.2	.593	-			279
1130	314.1	.474	-			267
1145	312.2	.460	-			264

(cont.)

CO₂ content and related data

Day 264
September 21, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	356.2	-	-0.068			69
0030	357.3	-	-.052			61
0045	356.2	-	-.048			58
0000	-	-	-	0	6	58
0115	356.2	-	-.048			70
0130	361.7	-	-.060			45
0145	365.0	-	-.052			41
0200	-	-	-	2	6	73
0215	361.7	-	-.052			44
0230	361.7	-	-.060			62
0245	359.5	-	-.048			49
0300	363.9	-	-.060	2	6	68
0315	363.9	-	-.052			64
0330	361.7	-	-.048			59
0345	362.8	-	-.052			49
0400	365.0	-	-.040	2	6	53
0415	365.0	-	-.040			59
0430	365.0	-	-.036			48
0445	365.0	-	-.032			52
0500	366.1	-	-.056	3	7	63
0515	365.0	-	-.040			91
0530	367.2	-	-.044			63
0545	367.2	-	-.032			53
0600	369.5	-	-.060	4	7	46
0615	366.1	0.016	-.040			45
0630	361.7	.040	-.032			-
0645	-	-	-			-
0700	354.0	.068	-.008	4	7	67
0715	354.2	.091	-.004			74
0730	351.2	.130	.043			84
0745	347.1	.118	.038			30
0800	341.8	.273	.145	6	8	23
0815	335.0	.189	.097			358
0830	326.5	.228	.132			598
0845	323.3	.269	.152			995
0900	319.5	.728	.472	7	8	735
0915	319.3	.246	.137			911
0930	320.6	.122	.047			1173
0945	319.9	.080	.019			1054
1000	320.3	.141	.089	6	8	742
1015	318.6	.137	.004			550
1030	318.3	.112	.033			1171
1045	317.4	.118	.003			1059
1100	316.2	.271	.168	9	9	685
1115	315.0	.569	.418			530
1130	314.1	1.101	.872			626
1145	313.1	.662	.508			963

(cont.)

Day 264
September 21, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	314.2	0.522	0.411	8	10	1143
1215	313.5	.334	.213			269
1230	313.9	.234	.137			229
1245	315.6	.180	.089			-
1300	312.4	.266	.169	9	11	-
1315	304.8	.573	.421			163
1330	-	.737	.556			122
1345	-	1.171	.893			169
1400	292.2	.793	.608	10	11	185
1415	287.6	.649	.463			-
1430	283.8	.561	.402			-
1445	283.2	.576	.352			-
1500	288.0	.445	.212	9	11	-
1515	288.6	.385	.171			-
1530	288.0	.344	.130			-
1545	289.7	.366	.153			-
1600	289.7	.218	.065	9	11	-
1615	289.7	.278	.125			-
1630	287.7	.263	.081			-
1645	284.6	.234	.029			-
1700	281.3	.125	-.037	7	10	-
1715	281.2	.146	-.030			-
1730	281.5	.130	-.066			-
1745	285.0	.065	-.113			-
1800	289.8	.015	-.126	3	9	-
1815	298.4	-	-.137			-
1830	299.4	-	-.138			-
1845	303.9	-	-.137			-
1900	315.6	-	-.133	1	8	-
1915	321.6	-	-.134			-
1930	324.0	-	-.133			-
1945	328.2	-	-.133			-
2000	337.2	-	-.132	0	7	-
2015	341.5	-	-.129			-
2030	343.7	-	-.129			-
2045	343.2	-	-.128			-
2100	341.4	-	-.128	-1	6	-
2115	344.1	-	-.128			-
2130	352.9	-	-.120			-
2145	361.7	-	-.120			-
2200	355.1	-	-.112	-1	6	-
2215	342.0	-	-.112			-
2230	309.6	-	-.100			-
2245	333.3	-	-.092			-
2300	342.0	-	-.040	1	6	-
2315	347.4	-	-.040			-
2330	345.2	-	-.108			-
2345	338.7	-	-.120			-
2400	332.2	-	-.120	1	5	-

CO₂ content and related dataDay 265
September 22, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	325.7	-	-.116			-
0030	322.5	-	-.120			-
0045	320.3	-	-.108			-
0100	320.3	-	-.100	3	5	-
0115	311.8	-	-.088			-
0130	307.5	-	-.076			-
0145	309.6	-	-.096			-
0200	310.7	-	-.108	3	4	-
0215	313.9	-	-.100			-
0230	315.0	-	-.024			-
0245	315.0	-	-.040			-
0300	315.0	-	-.080	4	5	-
0315	315.0	-	-.068			-
0330	316.0	-	-.092			-
0345	316.0	-	-.080			-
0400	318.2	-	-.088	4	5	-
0415	317.1	-	-.076			-
0430	318.2	-	-.108			-
0445	316.0	-	-.080	4	6	-
0500	316.0	-	-.072			-
0515	317.1	-	-.060			-
0530	316.0	-	-.028	5	6	-
0545	317.1	-	-.020			-
0600	316.0	-	-.012			-
0615	316.0	-	-.012			-
0630	315.0	-	-.012			-
0645	313.9	0.008	-.012			-
0700	311.8	.064	.000	6	6	-
0715	316.0	.124	.044			-
0730	310.1	.100	.031			-
0745	310.2	.116	.045			-
0800	310.9	.170	.081	7	7	-
0815	311.0	.157	.086			-
0830	310.6	.211	.126			-
0845	309.8	.220	.132			-
0900	308.4	.273	.172	8	7	-
0915	308.1	.300	.188			-
0930	307.5	.330	.214			-
0945	306.4	.429	.293			-
1000	305.5	.427	.304	10	9	-
1015	304.9	.483	.333			-
1030	304.5	.345	.224			-
1045	303.9	.426	.288			-
1100	301.1	.554	.386	12	10	-
1115	299.0	.588	.397			-
1130	296.8	.435	.276			-
1145	296.0	.401	.268			-

(cont.)

Day 265
September 22, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	294.6	0.461	0.304	13	10	-
1215	294.2	.414	.248			-
1230	293.0	.420	.289			-
1245	291.8	.282	.172			-
1300	293.0	.250	.150	12	10	-
1315	292.2	.206	.113			-
1330	293.0	.211	.106			-
1345	293.7	.197	.114			-
1400	294.3	.231	.144	12	11	-
1415	292.7	.239	.148			-
1430	286.8	.273	.174			-
1445	-	.223	.143			-
1500	282.4	.248	.162	13	11	236
1515	284.1	.141	.065			177
1530	286.8	.092	.032			219
1545	286.7	.090	.038			175
1600	286.1	.089	.040	12	11	86
1615	286.5	.064	.016			62
1630	289.5	.059	.013			90
1645	290.4	.069	.021			125
1700	291.0	.050	.006	11	11	139
1715	291.6	.038	-.008			127
1730	293.1	.018	-.020			158
1745	295.6	-	-.028			75
1800	297.2	-	-.030	10	10	90
1815	300.4	-	-.034			94
1830	301.0	-	-.034			95
1845	301.0	-	-.032			92
1900	302.0	-	-.031	10	10	122
1915	300.4	-	-.082			130
1930	302.8	-	-			140
1945	304.1	-	-			131
2000	312.8	-	-.052	9	10	116
2015	323.6	-	-.052			110
2030	332.2	-	-.048			74
2045	344.7	-	-.044			94
2100	355.1	-	-.032	8	9	81
2115	344.1	-	-.040			78
2130	330.0	-	-.052			101
2145	315.0	-	-.164			107
2200	316.0	-	-.048	8	9	162
2215	317.1	-	-.172			119
2230	313.9	-	-.052			120
2245	321.4	-	-.072			163
2300	327.9	-	-.084	7	9	131
2315	325.7	-	-.040			163
2330	321.4	-	-.032			151
2345	332.2	-	-.032			132
2400	347.4	-	-.036	7	9	102

CO₂ content and related data

Day 266
September 23, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	336.5	-	-.040			121
0030	317.1	-	-.048			99
0045	323.6	-	-.040			124
0100	320.3	-	-.048	7	9	155
0115	326.8	-	-.096			133
0130	339.8	-	-.072			110
0145	361.7	-	-.060			132
0200	365.0	-	-.032	6	8	100
0215	360.6	-	-.032			62
0230	337.6	-	-.032			34
0245	327.9	-	-.032			98
0300	323.6	-	-.040	7	8	166
0315	323.6	-	-.080			147
0330	329.0	-	-.128			168
0345	356.2	-	-.128			178
0400	362.8	-	-.120	4	8	101
0415	343.1	-	-.120			64
0430	348.5	-	-.120			110
0445	360.6	-	-.108			119
0500	354.0	-	-.100	2	7	118
0515	336.5	-	-.112			94
0530	329.0	-	-.120			133
0545	367.2	-	-.120			175
0600	361.7	-	-.112	2	7	140
0615	370.6	0.024	-.100			112
0630	365.0	.048	-.072			78
0645	345.2	.072	-.052			43
0700	339.8	.144	.028	3	7	65
0715	331.1	.268	.076			65
0730	315.0	.344	.144			64
0745	307.5	.396	.188			58
0800	305.4	.472	.252	9	8	62
0815	299.0	.524	.292			91
0830	293.7	.600	.360			110
0845	292.7	.660	.404			106
0900	291.6	.708	.444	13	9	85
0915	286.4	.768	.516			125
0930	290.6	.840	.520			118
0945	284.3	.888	.604			194
1000	286.4	.948	.664	15	11	235
1015	284.3	1.020	.704			262
1030	281.2	1.052	.740			247
1045	279.1	1.140	.840			307
1100	276.0	1.216	.928	16	13	267
1115	278.0	1.264	.984			292
1130	264.6	1.228	.960			300
1145	274.9	1.284	.996			261

(cont.)

Day 266
September 23, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	274.9	1.020	0.428	16	15	198
1215	272.8	.448	.288			206
1230	265.6	1.288	.984			161
1245	268.7	.344	.212			148
1300	266.6	.388	.220	16	16	156
1315	263.5	1.176	.912			184
1330	262.5	1.184	.924			108
1345	261.8	.453	.325			138
1400	262.8	.401	.256	16	15	170
1415	260.9	.736	.516			210
1430	260.4	.772	.545			119
1445	260.4	.326	.152			106
1500	261.3	.801	.546	17	15	177
1515	263.2	.500	.321			105
1530	263.8	.243	.124			112
1545	260.7	.248	.130			173
1600	261.9	.277	.153	16	15	148
1615	261.9	.293	.140			122
1630	263.2	.223	.086			125
1645	264.1	.200	.086			127
1700	262.8	.129	.044	15	14	156
1715	268.0	.067	.004			116
1730	278.3	.042	-.008			82
1745	286.2	.022	-.025			82
1800	296.5	-	-.032	13	14	45
1815	307.5	-	-.037			19
1830	313.0	-	-.050			20
1845	318.5	-	-.098			35
1900	338.7	-	-.118	10	13	58
1915	333.3	-	-.127			50
1930	343.2	-	-.128			68
1945	355.4	-	-.126			74
2000	357.0	-	-.129	6	11	25
2015	361.1	-	-.130			40
2030	363.6	-	-.129			10.
2045	367.2	-	-.132			49
2100	359.1	-	-.129	5	10	62
2115	354.7	-	-.129			94
2130	367.2	-	-.126			94
2145	374.3	-	-.126			101
2200	376.1	-	-.125	3	9	70
2215	372.4	-	-.121			71
2230	384.3	-	-.126			73
2245	399.7	-	-.120			27
2300	401.2	-	-.121	2	9	55
2315	407.6	-	-.121			57
2330	405.9	-	-.122			47
2345	402.5	-	-.123			55
2400	404.8	-	-.122	1	8	55

CO₂ content and related dataDay 269
September 26, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	366.1	-	-0.056			69
0030	389.6	-	-.064			62
0045	387.3	-	-.064			52
0100	372.8	-	-.080	10	11	48
0115	388.4	-	-.060			70
0130	373.9	-	-.048			72
0145	395.2	-	-.052			51
0200	414.5	-	-.052	8	11	37
0215	370.6	-	-.056			70
0230	354.0	-	-.052			95
0245	376.1	-	-.052			64
0300	382.8	-	-.048	8	11	26
0315	380.6	-	-.036			33
0330	345.2	-	-.040			90
0345	391.8	-	-.048			73
0400	414.5	-	-.056	9	11	38
0415	385.1	-	-.052			33
0430	391.8	-	-.056			56
0445	406.5	-	-.060			44
0500	395.2	-	-.104	8	11	64
0515	452.6	-	-.092			70
0530	443.3	-	-.112			36
0545	456.1	-	-.092			52
0600	361.7	-	-.080	7	11	85
0615	343.1	0.016	-.056			130
0630	347.4	.044	-.056			136
0645	343.1	.056	-.012			101
0700	340.9	.044	-.012	8	11	94
0715	348.5	.056	-.004			57
0730	344.1	.044	-.012			61
0745	340.9	.044	-.012			66
0800	339.8	.084	.016	10	11	60
0815	332.2	.084	.016			59
0830	333.3	.056	-.020			62
0845	332.2	.104	.124			129
0900	327.9	.116	.020	12	12	128
0915	-	-	-			114
0930	314.3	.366	.260			94
0945	311.3	.462	.342			118
1000	308.7	.491	.356	15	13	127
1015	308.9	.520	.367			116
1030	307.8	.463	.335			101
1045	306.0	.380	.277			71
1100	302.0	.410	.298	16	14	62
1115	305.2	.291	.201			82
1130	302.8	.314	.214			70
1145	299.3	.416	.302			128

(cont.)

Day 269
September 26, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	296.9	0.368	0.260	16	15	133
1215	294.3	.297	.197			115
1230	293.3	.381	.280			73
1245	293.9	.376	.271			88
1300	290.6	.356	.262	12	15	76
1315	390.9	.261	.175			71
1330	291.0	.310	.217			107
1345	290.6	.323	.237			82
1400	290.7	.332	.229	12	15	132
1415	289.8	.333	.238			72
1430	286.1	.300	.210			75
1445	288.8	.269	.177			74
1500	289.8	.393	.276	12	15	68
1515	287.3	.300	.196			68
1530	288.5	.252	.157			117
1545	287.3	.307	.185			67
1600	287.4	.258	.153	12	15	105
1615	289.7	.183	.104			46
1630	287.6	.178	.092			76
1645	284.4	.175	.081			48
1700	286.5	.094	.026	16	15	65
1715	293.4	.056	-.000			73
1730	305.2	.020	-.014			62
1745	314.2	.016	-.034			39
1800	342.1	-	-.052	14	14	28
1815	340.4	-	-.056			32
1830	353.8	-	-.053			71
1845	361.9	-	-.051			22
1900	375.3	-	-.052	12	14	19
1915	359.5	-	-.052			28
1930	322.5	-	-.048			125
1945	332.2	-	-.044			147
2000	379.5	-	-.052	13	13	148
2015	369.5	-	-.052			83
2030	380.6	-	-.056			31
2045	402.0	-	-.052			41
2100	397.4	-	-.052	12	13	41
2115	391.8	-	-.052			58
2130	427.1	-	-.048			47
2145	398.6	-	-.044			63
2200	398.6	-	-.052	11	13	95
2215	408.8	-	-.068			85
2230	404.2	-	-.040			1092
2245	417.9	-	-.080			67
2300	439.8	-	-.108	9	12	71
2315	452.6	-	-.100			38
2330	427.1	-	-.100			67
2345	421.3	-	-.096			65
2400	376.1	-	-.104	7	12	79

CO₂ content and related data

Day 270
September 27, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	395.2	-	-0.108			82
0030	435.2	-	-.100			80
0045	449.1	-	-.080			46
0100	438.6	-	-.100	7	11	39
0115	417.9	-	-.104			32
0130	414.5	-	-.124			37
0145	420.2	-	-.120			19
0200	406.5	-	-.088	6	11	50
0215	381.7	-	-.064			50
0230	381.7	-	-.172			51
0245	367.2	-	-			62
0300	363.9	-	-	6	11	98
0315	376.1	-	-			88
0330	361.7	-	-			80
0345	361.7	-	-			81
0400	361.7	-	-	6	11	58
0415	369.5	-	-.160			36
0430	391.8	-	-.176			38
0445	400.8	-	-.260			30
0500	379.5	-	-.208	5	11	35
0515	378.4	-	-.200			42
0530	380.6	-	-.228			76
0545	372.8	-	-.228			99
0600	376.1	-	-.220	5	10	37
0615	-	-	-			46
0630	371.7	0.026	-.180			48
0645	373.2	.032	-.162			43
0700	373.5	.029	-.185	5	10	61
0715	369.1	.048	-.013			72
0730	356.9	.109	.024			33
0745	353.3	.070	-.006			61
0800	356.2	.060	.000	6	11	74
0815	354.4	.114	.040			94
0830	346.3	.100	.026			58
0845	349.3	.111	.033			66
0900	344.7	.136	-.040	8	11	65
0915	339.5	.104	-.018			50
0930	320.9	.120	.042			190
0945	316.9	.182	.027			146
1000	323.9	.125	.054	9	12	124
1015	314.6	.102	.045			115
1030	313.6	.142	.060			116
1045	308.6	.212	.130			85
1100	306.1	.172	.081	12	12	60
1115	307.5	.148	.060			91
1130	302.9	.172	-.145			107
1145	301.5	.188	-			74

(cont.)

Day 270
September 27, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	300.8	0.180	-	13	12	101
1215	306.1	.086	-			170
1230	311.1	.064	-			112
1245	315.0	.080	-			90
1300	313.6	.148	-	11	12	96
1315	313.2	.193	-			92
1330	306.1	.197	-			118
1345	297.3	.149	-			103
1400	295.9	.172	-	13	13	225
1415	294.8	.284	-			223
1430	295.2	.168	-			248
1445	296.6	.238	-			246
1500	293.7	.368	0.224	14	13	243
1515	293.0	.241	.137			201
1530	294.4	.169	.085			220
1545	294.1	.137	.053			269
1600	296.6	.054	-.001	14	13	222
1615	296.9	.040	-.021			266
1630	296.9	.046	-.217			222
1645	297.6	.038	-.265			266
1700	299.7	.028	-.037	13	13	200
1715	302.2	.016	-.053			226
1730	302.6	-	-			176
1745	304.0	-	-			196
1800	305.0	-	-	12	12	210
1815	308.6	-	-			224
1830	310.0	-	-			226
1845	311.1	-	-			267
1900	310.7	-	-	13	12	217
1915	310.4	-	-			243
1930	309.6	-	-			332
1945	311.0	-	-			304
2000	314.4	-	-	12	12	228
2015	313.9	-	-			231
2030	314.3	-	-			253
2045	315.0	-	-			292
2100	315.0	-	-	11	12	321
2115	317.1	-	-			226
2130	315.3	-	-			216
2145	317.7	-	-			298
2200	316.8	-	-	11	12	248
2215	315.7	-	-			234
2230	316.4	-	-			193
2245	316.8	-	-			204
2300	314.6	-	-	11	11	184
2315	313.6	-	-			155
2330	312.1	-	-			166
2345	313.9	-	-			230
2400	316.4	-	-	11	11	191

CO₂ content and related dataDay 271
September 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	313.6	-	-			134
0030	315.3	-	-			110
0045	313.6	-	-			149
0100	315.3	-	-	10	11	182
0115	314.6	-	-			151
0130	317.1	-	-			128
0145	317.5	-	-			188
0200	318.2	-	-	10	11	179
0215	320.7	-	-			174
0230	317.1	-	-			175
0245	318.9	-	-			143
0300	315.3	-	-	10	11	97
0315	316.8	-	-			117
0330	317.5	-	-			158
0345	317.5	-	-			148
0400	318.2	-	-	10	11	111
0415	-	-	-			99
0430	323.6	-	-			128
0445	321.4	-	-			90
0500	316.0	-	-	10	11	114
0515	317.1	-	-			79
0530	317.8	-	-			106
0545	312.5	-	-			108
0600	312.3	-	-	10	11	100
0615	314.6	-	-			120
0630	312.1	-	-			119
0645	309.4	0.001	-			110
0700	312.8	.021	-	10	11	103
0715	309.6	.046	-			229
0730	307.5	.102	-			160
0745	307.9	.140	-			229
0800	307.5	.130	-	11	11	248
0815	308.9	.046	-			274
0830	311.1	.020	-			187
0845	308.9	.038	-			151
0900	307.9	.105	-	11	11	135
0915	310.0	.112	-			277
0930	307.9	.104	-			280
0945	310.7	.036	-			200
1000	310.4	.057	-	11	11	225
1015	310.0	.060	-			174
1030	304.7	.134	-			107
1045	307.2	.173	-			87
1100	307.5	.136	-	11	11	200
1115	307.2	.261	-			346
1130	306.4	.370	-			322
1145	308.2	.160	-			385

(cont.)

Day 271
September 28, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	308.6	0.165	-	11	12	309
1215	307.5	.362	-			330
1230	307.2	1.090	-			405
1245	307.5	.624	-			458
1300	307.5	.440	-	13	13	443
1315	311.1	.141	0.018			411
1330	311.4	.098	.009			327
1345	310.7	.148	.056			291
1400	310.7	.120	.042	12	13	328
1415	309.6	.150	.061			323
1430	310.0	.148	.065			352
1445	308.2	.156	.077			307
1500	309.6	.096	.030	13	13	305
1515	312.5	.040	-.018			326
1530	314.3	.033	-.030			315
1545	313.6	.058	-			342
1600	312.8	.181	-	12	12	287
1615	315.0	.070	-			349
1630	315.0	.046	-			253
1645	316.9	.020	-			242
1700	315.5	-	-	12	12	285
1715	316.9	-	-			253
1730	317.7	-	-			223
1745	318.7	-	-			278
1800	320.7	-	-	11	12	247
1815	321.4	-	-			260
1830	321.8	-	-			261
1845	323.0	-	-			203
1900	322.5	-	-	11	12	194
1915	322.5	-	-			284
1930	323.6	-	-			330
1945	325.7	-	-			301
2000	326.8	-	-	11	12	231
2015	326.8	-	-			266
2030	326.8	-	-			205
2045	326.8	-	-			282
2100	329.0	-	-	10	11	315
2115	331.1	-	-			226
2130	332.2	-	-			169
2145	332.2	-	-			111
2200	331.1	-	-	11	11	146
2215	332.2	-	-			129
2230	330.0	-	-			94
2245	327.9	-	-			123
2300	332.2	-	-	11	11	193
2315	331.1	-	-			164
2330	332.2	-	-			211
2345	333.3	-	-			179
2400	333.4	-	-	11	11	198

CO₂ content and related dataDay 272
September 29, 1962

Time (EST)	CO ₂ (ppm)	Ri (ly/min)	Rn (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	334.4	-	-			175
0030	332.2	-	-			218
0045	333.3	-	-			261
0100	334.4	-	-	11	11	250
0115	332.2	-	-			278
0130	333.3	-	-			252
0145	332.2	-	-			258
0200	-	-	-	10	11	198
0215	337.6	-	-0.124			190
0230	336.8	-	-.120			169
0245	334.4	-	-.100			195
0300	333.3	-	-.100	9	11	192
0315	334.4	-	-.116			160
0330	338.7	-	-.080			109
0345	334.4	-	-.076			123
0400	334.4	-	-.072	9	11	128
0415	334.4	-	-.072			105
0430	334.4	-	-.072			166
0445	334.4	-	-.060			223
0500	336.5	-	-.200	9	11	188
0515	334.4	-	-.072			238
0530	336.5	-	-.112			227
0545	344.1	-	-.128			117
0600	337.6	-	-.080	9	10	150
0615	336.5	0.016	-.052			176
0630	336.5	.036	-.032			201
0645	334.4	.064	-.004			193
0700	334.4	.044	-.020	9	10	126
0715	332.2	.088	-.012			244
0730	332.2	.136	-.016			262
0745	330.0	.144	.068			255
0800	326.8	.164	.084	10	11	267
0815	330.0	.144	.064			262
0830	326.8	.244	.140			252
0845	326.8	.276	.156			236
0900	325.7	.284	.204	10	11	260
0915	326.8	.096	.036			282
0930	329.0	.064	.012			249
0945	330.0	.100	.048			234
1000	326.8	.092	.036	10	11	144
1015	329.0	.124	.064			134
1030	327.9	.112	.056			205
1045	327.9	.128	.064			214
1100	-	-	-	10	11	203
1115	327.9	.116	.060			283
1130	329.0	.180	.104			219
1145	-	.148	.068			-

(cont.)

Day 272
September 29, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	322.5	0.136	0.048	11	11	-
1215	302.2	.152	.084			-
1230	303.3	.136	.068			390
1245	302.2	.128	.060			183
1300	305.4	.108	.044	11	12	138
1315	302.2	.072	.016			178
1330	302.2	.072	.016			142
1345	302.2	.060	.000			180
1400	302.2	.068	.020	11	11	110
1415	302.2	.072	.016			164
1430	301.1	.044	.000			170
1445	300.1	.076	.020			160
1500	300.1	.116	.056	11	11	144
1515	299.0	.048	.004			169
1530	302.2	.044	.000			77
1545	302.2	.036	-.008			75
1600	307.5	.024	-.012	11	11	99
1615	306.4	.024	-.012			67
1630	306.4	.036	-.012			79
1645	304.3	.040	-.012			99
1700	305.4	.016	-.024	11	11	95
1715	305.4	-	-.032			106
1730	322.5	-	-.032			126
1745	316.0	-	-.032			86
1800	322.5	-	-.028	10	11	66
1815	316.0	-	-.040			66
1830	329.0	-	-.032			97
1845	305.4	-	-.032			84
1900	309.6	-	-.032	11	11	142
1915	311.1	-	-.033			168
1930	311.8	-	-.117			125
1945	306.4	-	-.040			100
2000	307.2	-	-.044	10	11	121
2015	310.0	-	-.041			145
2030	312.5	-	-.040			127
2045	318.5	-	-.036			88
2100	327.2	-	-.033	10	11	88
2115	322.1	-	-.033			105
2130	321.4	-	-.040			78
2145	312.5	-	-.041			62
2200	307.5	-	-.037	10	11	112
2215	304.7	-	-.040			148
2230	306.1	-	-.046			138
2245	305.4	-	-.040			157
2300	306.8	-	-.044	10	11	149
2315	307.5	-	-.049			138
2330	310.0	-	-.057			112
2345	320.3	-	-.054			86
2400	314.3	-	-.113	9	10	78

CO₂ content and related dataDay 273
September 30, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0015	321.4	-	-0.140			78
0030	343.6	-	-.138			94
0045	346.6	-	-.135			46
0100	355.1	-	-.138	5	9	77
0115	365.0	-	-.132			61
0130	369.5	-	-.132			44
0145	369.2	-	-.130			50
0200	378.4	-	-.129	3	9	71
0215	373.9	-	-.126			45
0230	369.5	-	-.128			63
0245	377.6	-	-.130			68
0300	376.9	-	-.128	2	8	71
0315	372.8	-	-.124			70
0330	370.2	-	-.126			72
0345	365.8	-	-.129			99
0400	364.3	-	-.125	2	8	110
0415	368.3	-	-.126			80
0430	376.5	-	-.124			118
0445	364.7	-	-.129			35
0500	363.6	-	-.126	1	7	77
0515	366.5	-	-.126			80
0530	363.6	-	-.128			74
0545	355.8	-	-.125			80
0600	366.1	-	-.124	1	7	98
0615	358.8	0.009	-.112			94
0630	354.7	.029	-.090			86
0645	348.5	.100	.000			106
0700	332.2	.146	.070	4	6	94
0715	323.2	.082	.032			115
0730	321.4	.077	.033			-
0745	318.9	.120	.054			-
0800	313.6	.244	.162	7	7	-
0815	311.8	.385	.262			112
0830	307.2	.528	.308			100
0845	303.3	.512	.285			116
0900	301.1	.469	.260	11	9	134
0915	297.6	.450	.284			118
0930	297.3	.670	.445			100
0945	300.1	.545	.505			139
1000	296.2	.616	.633	13	10	218
1015	289.9	.640	.397			127
1030	293.4	.589	.409			177
1045	283.9	.949	.646			89
1100	286.9	1.148	.856	15	12	148
1115	285.9	.883	.569			342
1130	283.8	.900	.796			315
1145	285.9	.506	.408			275

(cont.)

Day 273
September 30, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
1200	288.5	0.830	0.634	15	13	250
1215	288.2	.583	.229			258
1230	287.1	.638	.444			256
1245	287.8	.870	.601			222
1300	284.6	.605	.484	16	14	307
1315	386.4	.974	.754			222
1330	286.7	.310	.140			280
1345	286.0	.729	.462			225
1400	283.2	.850	.638	16	14	245
1415	282.2	.418	.262			220
1430	283.9	.329	.194			288
1445	284.3	.366	.157			265
1500	286.4	.752	.386	16	14	246
1515	287.8	.486	.226			296
1530	387.1	.528	.244			298
1545	289.2	.506	.157			304
1600	289.5	.457	.053	16	14	321
1615	289.9	.305	-.014			313
1630	290.9	.269	.033			270
1645	291.3	.244	.002			257
1700	291.3	.177	-.044	15	13	258
1715	291.3	.114	-.084			195
1730	291.6	.032	-.109			124
1745	291.6	.014	-.122			73
1800	289.9	-	-.129	9	12	84
1815	289.5	-	-.132			53
1830	-	-	-.130			56
1845	-	-	-.132			54
1900	-	-	-.128	6	11	61
1915	-	-	-.122			52
1930	-	-	-.121			62
1945	-	-	-.122			74
2000	-	-	-.120	4	10	71
2015	-	-	-.122			70
2030	-	-	-.120			70
2045	-	-	-.117			60
2100	-	-	-.116	3	9	47
2115	-	-	-.113			50
2130	-	-	-.113			71
2145	-	-	-.112			73
2200	-	-	-.111			81
2215	-	-	-.110			71
2230	-	-	-.110			94
2245	-	-	-.120			116
2300	-	-	-.116	2	8	73
2315	-	-	-.120			75
2330	-	-	-.116			70
2345	-	-	-.120			89
2400	-	-	-.120	1	7	56

CO₂ content and related data

Day 288
October 15, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	-	-	-	-	-	-
0200	-	-	-	-	-	-
0300	-	-	-	-	-	-
0400	-	-	-	-	-	-
0500	-	-	-	-	-	-
0600	-	-	-	-	-	-
0700	-	0.08	-.04	-	-	-
0800	-	.32	.08	-	-	-
0900	313	.52	.22	-	-	208
1000	308	.72	.38	-	-	260
1100	302	.84	.46	-	-	253
1200	297	.86	.48	-	-	272
1300	292	.78	.36	-	-	274
1400	286	.60	.18	-	-	264
1500	286	.46	.22	-	-	240
1600	286	.26	.02	-	-	330
1700	292	.06	-.12	-	-	260
1800	292	-	-.14	-	-	226
1900	292	-	-.14	-	14	246
2000	297	-	-.12	17	14	252
2100	302	-	-.12	17	14	167
2200	302	-	0.12	17	14	201
2300	308	-	-.08	17	14	180
2400	302	-	-.12	17	-	281

CO₂ content and related data

Day 289
October 16, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	297	-	-.06	17	14	288
0200	302	-	-.06	17	14	320
0300	302	-	-.06	17	14	272
0400	302	-	-	16	13	143
0500	302	-	-	16	13	175
0600	297	-	-.02	16	13	183
0700	297	0.02	.00	16	13	155
0800	292	.24	.12	17	14	164
0900	292	.26	.14	18	15	255
1000	286	.76	.50	21	16	254
1100	286	.78	.52	22	17	377
1200	281	.86	.62	25	19	300

CO₂ content and related data

Day 302
October 29, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	324	-	-	-	-	-
0200	324	-	-	-	-	-
0300	324	-	-	-	-	-
0400	324	-	-	-	-	-
0500	324	-	-	-	-	-
0600	324	-	-	-	-	-
0700	324	-	-	-	-	-
0800	324	0.04	-	-	-	-
0900	324	.24	-	-	-	-
1000	318	.42	-	-	-	427
1100	324	.28	-	-	-	406
1200	324	.36	-	-	-	346
1300	313	.32	-	-	-	334
1400	313	.32	-	-	-	361
1500	318	.36	-	-	-	314
1600	313	.24	-	-	-	302
1700	318	.00	-	-	-	55
1800	334	-	-	-	-	63
1900	340	-	-	-	-	113
2000	345	-	-	-1	2	132
2100	345	-	-	-2	1	93
2200	334	-	-	-1	1	190
2300	329	-	-	0	1	167
2400	324	-	-	1	1	212

CO₂ content and related data

Day 303
October 30, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	334	-	-	1	1	215
0200	334	-	-	1	1	280
0300	329	-	-	1	1	337
0400	324	-	-	1	1	370
0500	324	-	-	1	1	169
0600	324	-	-	1	1	320
0700	324	-	-	2	1	495
0800	324	0.12	-	2	1	365
0900	324	.22	-	3	2	546
1000	324	.14	-	4	3	493
1100	324	.26	-	5	3	518
1200	324	.24	-	6	4	639
1300	324	.16	-	6	4	488
1400	324	.04	-	5	4	420
1500	302	.02	-	5	4	456
1600	313	-	-	5	4	340
1700	313	-	-	5	4	275
1800	318	-	-	8	4	326
1900	318	-	-	8	4	252
2000	324	-	-	8	4	149
2100	324	-	-	8	4	54
2200	318	-	-	8	4	56
2300	324	-	-	7	4	165
2400	318	-	-	7	4	112

CO₂ content and related data

Day 304
October 31, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	318	-	-	7	4	166
0200	318	-	-	5	4	308
0300	313	-	-	5	4	218
0400	318	-	-	5	4	170
0500	318	-	-	5	4	155
0600	324	-	-	5	4	102
0700	324	-	-	5	4	54
0800	313	0.04	-	-	4	99
0900	308	.18	-	6	5	151
1000	308	.12	-	7	6	160
1100	308	.36	-	8	8	165
1200	302	.22	-	8	8	160
1300	297	.26	-	9	9	156
1400	297	.20	-	9	9	150
1500	297	.16	-	9	9	172
1600	297	.04	-	9	8	114
1700	313	-	-	7	7	50
1800	340	-	-	4	6	62
1900	329	-	-	5	6	66
2000	302	-	-	6	6	134
2100	324	-	-	4	5	91
2200	345	-	-	2	4	90
2300	345	-	-	1	3	61
2400	351	-	-	0	3	117

CO₂ content and related dataDay 305
November 1, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-	0	2	132
0200	356	-	-	0	2	87
0300	345	-	-	0	2	72
0400	351	-	-	0	1	60
0500	345	-	-	0	2	79
0600	345	-	-	1	2	55
0700	340	-	-	2	2	150
0800	313	-	-	3	3	505
0900	302	0.02	-	2	3	406
1000	302	.20	-	4	3	383
1100	-	-	-	-	-	477
1200	-	-	-	-	-	472
1300	-	-	-	-	-	534
1400	-	-	-	-	-	469
1500	-	-	-	-	-	442
1600	-	-	-	-	-	284
1700	302	-	-	5	4	324
1800	313	-	-	4	4	345
1900	313	-	-	4	3	395
2000	318	-	-	1	3	167
2100	334	-	-	-1	2	104
2200	340	-	-	-2	1	149
2300	351	-	-	-2	1	73
2400	345	-	-	-3	1	78

CO₂ content and related data

Day 306
November 2, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	356	-	-	-3	1	134
0200	356	-	-	-3	1	77
0300	356	-	-	-3	1	118
0400	356	-	-	-3	1	-
0500	356	-	-	-4	1	115
0600	356	-	-	-4	0	124
0700	356	-	-	-3	0	140
0800	340	0.10	-	0	0	135
0900	329	.12	-	2	0	122
1000	329	.26	-	3	1	186
1100	324	.38	-	5	1	226
1200	324	.34	-	6	4	203
1300	318	.34	-	6	5	201
1400	313	.32	-	8	7	200
1500	313	.18	-	8	7	154
1600	313	.10	-	7	6	147
1700	313	-	-	5	5	212
1800	329	-	-	2	4	95
1900	345	-	-	0	3	132
2000	356	-	-	0	2	110
2100	351	-	-	0	2	116
2200	351	-	-	-1	1	150
2300	356	-	-	-1	1	78
2400	373	-	-	-2	1	61

CO₂ content and related dataDay 307
November 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	373	-	-	-3	1	45
0200	373	-	-	-2	1	91
0300	362	-	-	-2	1	79
0400	373	-	-	-2	1	54
0500	378	-	-	-2	1	33
0600	378	-	-	-2	1	107
0700	373	-	-	-2	1	73
0800	356	0.02	-	0	1	218
0900	324	.12	-	4	1	168
1000	324	.22	-	4	1	346
1100	318	.16	0.04	5	2	384
1200	313	.14	.02	5	3	200
1300	318	.06	-.02	4	3	345
1400	318	-	-.02	1	2	181
1500	318	-	-.02	0	2	106
1600	318	-	-	0	1	192
1700	318	-	-	-	1	256
1800	318	-	-	5	1	221
1900	324	-	-	14	1	308
2000	324	-	-	14	1	-
2100	324	-	-	2	1	48
2200	324	-	-	3	1	56
2300	324	-	-	3	1	69
2400	329	-	-	3	1	108

CO₂ content and related data

Day 308
November 4, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	329	-	-	3	1	77
0200	329	-	-	3	1	80
0300	334	-	-	4	1	111
0400	334	-	-	4	1	96
0500	334	-	-	4	1	108
0600	334	-	-0.04	5	1	93
0700	340	-	-.04	4	1	69
0800	340	0.04	-.02	4	1	92
0900	340	.18	.00	1	1	19
1000	334	.20	.04	1	1	180
1100	329	.28	.04	1	1	270
1200	324	.32	.04	2	1	296
1300	324	.36	.06	3	1	312
1400	324	.26	.04	2	1	430
1500	324	.24	.02	3	1	-
1600	324	.12	.00	3	1	-
1700	324	-	-.10	0	1	-
1800	334	-	-.10	0	1	-
1900	351	-	-.04	-1	1	-
2000	345	-	-.02	-1	1	-
2100	351	-	-.02	0	1	-
2200	351	-	-.02	0	1	-
2300	356	-	-.02	0	1	-
2400	356	-	-.02	0	1	-

CO₂ content and related dataDay 309
November 5, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	356	-	-0.02	-1	1	-
0200	362	-	-.10	-1	1	-
0300	351	-	-.08	-3	1	-
0400	367	-	-.08	-4	1	-
0500	362	-	-.02	-4	1	-
0600	362	-	-.02	-3	1	-
0700	356	-	-.02	-3	1	-
0800	356	0.24	-.02	-2	1	-
0900	340	.48	.04	2	1	-
1000	334	.60	.06	4	1	-
1100	324	.76	.08	5	1	-
1200	318	.56	.08	5	1	-
1300	313	.38	.06	4	1	-
1400	313	.16	.04	3	1	-
1500	297	.14	.02	2	1	298
1600	297	-	.00	1	1	277
1700	302	-	-.02	0	1	208
1800	302	-	-.02	0	1	201
1900	302	-	-.04	0	1	258
2000	308	-	-.04	0	1	318
2100	308	-	-.04	0	1	287
2200	308	-	-.04	0	1	325
2300	313	-	-.04	0	1	303
2400	313	-	-.02	0	1	349

CO₂ content and related data

Day 310
November 6, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	313	-	-0.12	-1	1	324
0200	313	-	-.08	-1	1	362
0300	313	-	-.04	-1	1	356
0400	313	-	-.04	-1	1	-
0500	318	-	-.04	-1	1	-
0600	318	-	-.04	-1	1	-
0700	318	-	-.06	-2	1	-
0800	318	0.08	-.06	-1	1	-
0900	318	.40	-.04	-1	1	-
1000	313	.72	.04	0	1	-
1100	313	.64	.08	0	1	-
1200	313	.52	.10	1	1	-
1300	308	.72	.12	1	1	-
1400	302	.78	.02	2	1	-
1500	302	.50	-.10	2	1	-
1600	302	.22	-.14	3	1	-
1700	302	-	-.14	0	1	230
1800	313	-	-.12	-4	1	54
1900	329	-	-.12	-5	1	77
2000	334	-	-.12	-7	1	103
2100	340	-	-.12	-7	1	78
2200	356	-	-.12	-8	1	80
2300	345	-	-.12	-8	1	105
2400	345	-	-.12	-8	1	88

CO₂ content and related dataDay 311
November 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.12	-9	1	114
0200	345	-	-.12	-9	1	166
0300	345	-	-.10	-9	1	133
0400	356	-	-.10	-10	1	-
0500	356	-	-.10	-10	1	-
0600	356	-	-.12	-8	1	-
0700	345	-	-.12	-6	0	-
0800	345	0.28	-.08	-4	0	211
0900	340	.48	-.02	0	0	251
1000	334	.76	.00	1	1	345
1100	329	.78	.08	3	1	419
1200	324	.76	.08	5	0	346
1300	313	.70	.08	5	0	382
1400	313	.62	.02	5	1	410
1500	308	.30	.04	6	0	352
1600	308	.08	.00	5	0	306
1700	308	-	.00	5	0	216
1800	308	-	.00	4	0	291
1900	313	-	.00	5	0	273
2000	324	-	.00	4	0	284
2100	324	-	.00	5	0	-
2200	324	-	.00	5	0	280
2300	334	-	-.02	3	0	85
2400	334	-	.00	3	0	167

CO₂ content and related data

Day 312
November 8, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	329	-	0.00	3	0	124
0200	340	-	.00	2	0	91
0300	351	-	.00	2	0	67
0400	351	-	-.06	2	0	129
0500	345	-	-.08	1	0	80
0600	356	-	-.12	0	0	91
0700	351	-	-.08	-1	0	109
0800	351	0.18	.04	2	0	136
0900	340	.32	.20	7	1	85
1000	329	.34	.24	7	1	188
1100	324	.22	.20	7	3	174
1200	324	.26	.14	8	5	202
1300	324	.12	.08	7	5	143
1400	324	.08	.02	8	5	79
1500	324	.14	.06	8	5	136
1600	329	.06	.00	8	5	140
1700	340	-	-.04	5	5	102
1800	345	-	-.06	4	4	72
1900	351	-	-.10	2	4	96
2000	356	-	-.14	0	3	87
2100	367	-	-.14	0	2	102
2200	373	-	-.14	-1	1	117
2300	367	-	-.14	-1	1	112
2400	367	-	-.14	-2	1	143

CO₂ content and related data

Day 313
November 9, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	367	-	-0.14	-2	1	129
0200	362	-	-.12	-2	1	-
0300	362	-	-.12	-2	1	-
0400	362	-	-.12	-3	1	100
0500	362	-	-.12	-3	1	109
0600	356	-	-.12	-3	1	122
0700	362	-	-.12	-3	0	-
0800	345	0.22	.00	1	1	-
0900	340	.36	.20	5	1	198
1000	334	.38	.24	6	1	484
1100	329	.40	.22	7	3	358
1200	329	.40	.24	7	4	351
1300	324	.34	.20	8	5	248
1400	324	.24	.10	8	6	-
1500	313	.12	.00	8	5	-
1600	297	.04	-.04	8	5	220
1700	297	-	-.06	8	5	311
1800	302	-	-.06	7	4	-
1900	302	-	-.04	7	4	365
2000	302	-	-.06	7	4	298
2100	297	-	-	7	4	348
2200	297	-	-	6	4	368
2300	297	-	-	6	4	398
2400	297	-	-	6	4	608

CO₂ content and related dataDay 314
November 10, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	292	-	-	7	4	589
0200	292	-	-	8	5	593
0300	297	-	-	8	5	530
0400	297	-	-	8	5	370
0500	297	-	-	8	6	489
0600	297	-	-	9	6	536
0700	297	-	-	9	6	640
0800	297	0.02	-	10	7	556
0900	297	.02	-	10	7	525
1000	297	.24	-	12	8	578
1100	292	.28	-	13	10	370
1200	292	.12	0.04	13	10	452
1300	292	.20	.10	11	9	241
1400	292	.10	.06	11	9	249
1500	292	.12	.04	11	9	184
1600	292	-	-	10	9	102
1700	302	-	-	8	8	62
1800	329	-	-	7	8	66
1900	340	-	-	6	7	37
2000	334	-	-	7	7	87
2100	308	-	-	7	7	574
2200	313	-	-	6	6	635
2300	313	-	-	5	6	620
2400	313	-	-	5	5	589

CO₂ content and related dataDay 315
November 11, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	318	-	-	5	5	629
0200	318	-	-	5	5	698
0300	324	-	-	5	5	696
0400	324	-	-	5	5	709
0500	324	-	-	4	5	710
0600	324	-	-	4	5	665
0700	324	-	-	4	4	658
0800	329	-	-	4	4	722
0900	329	0.02	-	3	4	696
1000	329	.06	-	3	4	708
1100	329	.10	-	6	4	683
1200	329	.08	-	4	4	706
1300	334	.10	-	4	4	611
1400	334	.08	0.04	3	4	622
1500	334	.06	.00	3	4	500
1600	334	-	-.04	3	4	468
1700	334	-	-.06	3	3	382
1800	334	-	-.10	3	3	296
1900	345	-	-.06	3	3	336
2000	345	-	-.06	3	2	246
2100	345	-	-.04	3	2	268
2200	345	-	-.04	2	2	162
2300	351	-	-.10	2	2	170
2400	351	-	-.18	0	1	-

CO₂ content and related data

Day 316
November 12, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	356	-	-0.18	0	1	-
0200	356	-	-.18	-1	1	149
0300	367	-	-.20	-3	1	33
0400	373	-	-.18	-4	1	-
0500	390	-	-.18	-5	1	-
0600	384	-	-.18	-5	1	-
0700	401	-	-.18	-5	0	-
0800	390	0.28	-.04	-4	1	77
0900	356	.24	.08	-1	0	163
1000	351	.28	.22	0	0	267
1100	351	.62	.42	-1	1	279
1200	345	.56	.34	2	3	215
1300	345	.52	.28	4	5	192
1400	334	.40	.18	4	6	98
1500	334	.30	.10	4	6	185
1600	334	.22	-.06	4	5	180
1700	334	-	-.18	0	3	115
1800	340	-	-.18	-1	2	64
1900	373	-	-.18	-2	2	64
2000	373	-	-.18	-3	1	74
2100	378	-	-.18	-4	1	57
2200	390	-	-.16	-5	1	37
2300	395	-	-.16	-5	1	69
2400	390	-	-.14	-5	1	61

CO₂ content and related data

Day 317
November 13, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	384	-	-0.06	-5	0	66
0200	384	-	-.08	-3	0	-
0300	384	-	-.08	-3	0	53
0400	384	-	-.06	-2	0	-
0500	378	-	-.04	-2	0	-
0600	378	-	-.04	-1	0	-
0700	378	-	-.04	-1	0	-
0800	373	0.02	-.02	-1	0	-
0900	367	.00	.00	0	0	-
1000	367	.04	.00	0	0	-
1100	367	.08	.04	1	0	-
1200	362	.06	.08	1	0	-
1300	356	.02	.06	1	0	-
1400	362	.00	-	2	0	-
1500	356	.02	-	3	0	-
1600	345	-	-.04	4	0	-
1700	351	-	-.04	3	0	-
1800	351	-	-.04	4	0	-
1900	345	-	-.04	4	0	-
2000	345	-	-.04	4	0	-
2100	345	-	-.04	4	0	-
2200	351	-	-.06	4	1	-
2300	345	-	-.06	2	1	-
2400	351	-	-.08	2	1	-

CO₂ content and related data

Day 318
November 14, 1962

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.12	1	1	-
0200	351	-	-.08	1	1	-
0300	356	-	-.08	1	1	-
0400	356	-	-.06	1	1	-
0500	356	-	-.04	1	1	-
0600	356	-	-.04	0	1	-
0700	356	-	-.08	0	1	-
0800	356	0.06	.02	0	1	-
0900	356	.28	.20	1	1	-
1000	356	.40	.28	1	1	-
1100	356	.48	.36	2	3	-
1200	351	.48	.32	2	3	-
1300	351	.44	.24	2	3	-
1400	345	.40	.08	2	3	-
1500	345	.20	-.04	2	3	-
1600	351	.12	-.12	1	2	-
1700	351	-	-.16	0	1	-
1800	351	-	-.06	1	1	-
1900	356	-	-.06	1	1	-
2000	356	-	-.10	1	1	-
2100	356	-	-.10	0	1	-
2200	367	-	-.14	0	1	-
2300	367	-	-.16	-1	0	-
2400	367	-	-.10	0	0	-

CO₂ content and related dataDay 319
November 15, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	367	-	-0.08	0	0	-
0200	367	-	-.06	0	0	-
0300	367	-	-.06	0	0	-
0400	367	-	-.12	-1	0	-
0500	367	-	-.08	-1	0	-
0600	367	-	-.08	-1	0	-
0700	367	0.06	-.10	-2	0	-
0800	356	.20	.00	0	0	-
0900	351	.46	.20	0	1	-
1000	351	.64	.36	1	1	-
1100	345	.74	.44	3	3	-
1200	340	.76	.46	4	5	-
1300	334	.72	.38	6	6	-
1400	329	.56	.22	6	7	-
1500	324	.36	.04	5	6	-
1600	324	.08	-.14	4	4	-
1700	324	-	-.14	0	3	-
1800	340	-	-.14	-2	2	-
1900	351	-	-.14	-2	1	-
2000	362	-	-.14	-4	1	-
2100	373	-	-.14	-5	1	-
2200	378	-	-.14	-5	1	-
2300	384	-	-.14	-5	1	-
2400	384	-	-.14	-5	0	-

CO₂ content and related data

Day 320
November 16, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	390	-	-0.14	-6	0	-
0200	395	-	-.14	-7	0	-
0300	395	-	-.14	-7	0	-
0400	401	-	-.14	-7	0	-
0500	390	-	-.14	-7	0	-
0600	390	-	-.12	-7	-1	-
0700	390	-	-.12	-7	-1	-
0800	378	0.32	.04	-2	0	-
0900	367	.50	.24	2	0	-
1000	362	.70	.38	3	0	-
1100	356	.68	.42	5	0	-
1200	345	.66	.38	7	2	-
1300	334	.30	.08	7	3	-
1400	324	.32	.16	8	3	-
1500	334	.24	.04	8	4	-
1600	334	.04	-.06	6	3	-
1700	318	-	-.10	4	3	-
1800	340	-	-.10	1	2	-
1900	340	-	-.06	0	1	-
2000	362	-	-.12	0	1	-
2100	356	-	-.08	0	1	-
2200	351	-	-.04	0	1	-
2300	334	-	-.04	0	1	-
2400	329	-	-.04	1	1	-

CO₂ content and related data

Day 321
November 17, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	329	-	-0.02	1	1	-
0200	329	-	-.02	1	1	-
0300	334	-	-.04	1	1	-
0400	334	-	-.02	1	1	-
0500	334	-	-.04	1	1	-
0600	334	-	-.02	1	1	-
0700	334	-	-.02	1	1	-
0800	334	0.02	.00	1	1	-
0900	334	.16	.12	1	1	-
1000	334	.18	.12	1	1	-
1100	334	.18	.08	2	2	-
1200	334	.18	.14	2	2	-
1300	334	.10	.06	2	2	-
1400	329	.04	.02	2	2	-
1500	318	.02	-.02	2	2	-
1600	308	-	-	0	1	-
1700	308	-	-	0	1	-
1800	313	-	-	0	1	-
1900	313	-	-	0	1	-
2000	313	-	-	3	1	-
2100	318	-	-	2	1	-
2200	318	-	-	2	1	-
2300	324	-	-	1	1	-
2400	324	-	-	1	1	-

CO₂ content and related dataDay 322
November 18, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	324	-	-	1	1	-
0200	324	-	-	1	1	-
0300	324	-	-	1	1	-
0400	329	-	-0.04	1	1	-
0500	329	-	-0.10	6	1	-
0600	329	-	-0.06	7	1	-
0700	329	-	-0.04	6	1	-
0800	329	-	-0.04	5	1	-
0900	334	0.02	.00	4	1	-
1000	329	.04	.04	4	1	-
1100	329	.06	.06	4	1	-
1200	329	.06	.04	4	1	-
1300	329	.04	.02	3	1	-
1400	329	.02	.00	2	1	-
1500	329	-	-0.02	0	1	-
1600	329	-	-0.04	0	1	-
1700	329	-	-0.10	0	1	-
1800	334	-	-0.16	0	1	-
1900	334	-	-0.06	0	0	-
2000	340	-	-0.06	0	0	-
2100	340	-	-0.10	0	0	-
2200	345	-	-0.14	-1	0	-
2300	345	-	-0.18	-1	0	-
2400	351	-	-0.18	-3	0	-

CO₂ content and related data

Day 323
November 19, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.18	-4	0	-
0200	356	-	-.18	-5	0	-
0300	367	-	-.18	-6	0	-
0400	373	-	-.18	-7	0	-
0500	373	-	-.08	-6	0	-
0600	373	-	-.16	-5	0	-
0700	384	0.10	-.14	-6	0	-
0800	367	.26	.04	-3	0	-
0900	356	.48	.28	0	0	-
1000	351	.74	.44	1	0	-
1100	345	.64	.44	1	0	-
1200	340	.46	.32	2	0	-
1300	334	.36	.22	2	1	-
1400	334	.40	.18	3	2	-
1500	329	.20	-.02	3	2	-
1600	334	-	-.14	0	1	-
1700	329	-	-.14	-1	1	-
1800	340	-	-.16	-3	1	-
1900	351	-	-.12	-3	1	-
2000	356	-	-.12	-3	0	-
2100	356	-	-.12	-3	0	-
2200	351	-	-.12	-3	0	-
2300	345	-	-.12	-3	0	-
2400	345	-	-.10	-3	0	-

CO₂ content and related data

Day 324
November 20, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.08	-3	0	-
0200	351	-	-.06	-2	0	-
0300	351	-	-.06	-1	0	-
0400	351	-	-.04	-1	0	-
0500	351	-	-.04	-1	0	-
0600	351	-	-.04	-1	0	-
0700	351	-	-.04	0	0	-
0800	356	-	-.04	0	0	-
0900	356	0.04	.00	0	0	-
1000	351	.08	.04	0	0	-
1100	351	.32	.24	1	0	-
1200	351	.26	.20	2	0	-
1300	345	.32	.22	4	0	-
1400	345	.26	.16	4	0	-
1500	345	.04	.02	4	0	-
1600	-	-	-	-	-	-
1700	-	-	-	-	-	-
1800	-	-	-	-	-	191
1900	-	-	-	-	-	249
2000	-	-	-	-	-	180
2100	313	-	-.14	2	0	233
2200	313	-	-.06	1	0	232
2300	313	-	-.06	2	0	291
2400	313	-	-.04	3	0	281

CO₂ content and related dataDay 325
November 21, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	313	-	-0.04	3	0	276
0200	308	-	-.04	3	0	228
0300	313	-	-.04	3	0	264
0400	313	-	-.04	4	0	267
0500	308	-	-	4	0	287
0600	308	-	-	4	0	333
0700	313	-	-.12	3	0	268
0800	313	0.06	-.02	4	0	363
0900	313	.12	.06	5	1	359
1000	313	.06	.02	6	2	286
1100	313	.16	.06	7	3	316
1200	308	.26	.14	8	4	380
1300	302	.22	.10	8	5	353
1400	302	.12	.02	9	5	361
1500	302	.10	-.04	9	5	280
1600	302	.02	-.06	9	5	-
1700	308	-	-.06	8	5	-
1800	308	-	-.08	8	5	-
1900	308	-	-.08	8	5	-
2000	308	-	-.08	8	4	-
2100	313	-	-.08	7	4	-
2200	313	-	-.12	7	4	-
2300	313	-	-.10	7	4	-
2400	313	-	-.08	7	4	-

CO₂ content and related data

Day 326
November 22, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	313	-	-	6	4	-
0200	318	-	-	6	4	-
0300	329	-	-	10	4	-
0400	334	-	-	9	4	-
0500	324	-	-	8	4	-
0600	308	-	-	8	4	-
0700	308	-	-	7	4	-
0800	302	-	-	7	4	-
0900	308	-	-	7	4	-
1000	308	0.06	-	7	4	-
1100	308	.10	-	7	4	-
1200	308	.24	0.16	6	5	-
1300	308	.30	.18	6	6	-
1400	313	.04	.00	6	5	-
1500	308	-	-	5	5	627
1600	302	-	-	4	4	519
1700	292	-	-	2	3	494
1800	313	-	-.08	2	2	417
1900	318	-	-.10	1	2	531
2000	329	-	-.10	1	1	527
2100	334	-	-.12	1	1	562
2200	334	-	-.06	1	1	469
2300	334	-	-.06	1	1	453
2400	334	-	-.06	1	1	530

CO₂ content and related dataDay 327
November 23, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	340	-	-0.06	1	1	675
0200	340	-	-.06	1	1	529
0300	345	-	-.06	1	1	529
0400	345	-	-.06	1	1	447
0500	345	-	-.04	1	1	395
0600	345	-	-.04	1	1	369
0700	345	-	-.04	1	1	324
0800	351	-	-.04	1	1	324
0900	351	0.12	.06	2	1	412
1000	345	.56	.34	3	2	530
1100	345	.48	.32	3	3	572
1200	345	.76	.44	4	4	585
1300	340	.28	.14	4	4	576
1400	340	.18	.08	3	3	400
1500	345	.04	.02	3	3	337
1600	345	.08	-.01	3	2	161
1700	362	-	-.01	-1	2	77
1800	362	-	-	-1	1	101
1900	367	-	-.04	-1	1	56
2000	362	-	-.04	0	1	131
2100	362	-	-.04	1	1	172
2200	362	-	-.06	1	1	257
2300	362	-	-.06	1	1	286
2400	362	-	-.04	2	1	338

CO₂ content and related dataDay 328
November 24, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	367	-	-0.04	2	1	383
0200	367	-	-.04	3	1	264
0300	367	-	-.04	3	1	258
0400	367	-	-.04	3	1	-
0500	367	-	-.04	4	1	302
0600	367	-	-.02	4	1	167
0700	367	-	-	4	1	395
0800	373	-	-	1	1	751
0900	373	0.02	-	2	1	709
1000	378	.08	-	3	1	602
1100	378	.06	-	2	2	502
1200	378	.12	-	3	2	552
1300	373	.12	.06	3	2	555
1400	378	.16	.08	3	2	572
1500	345	.10	.06	4	3	452
1600	313	.02	-.06	3	2	373
1700	313	-	-.04	3	2	239
1800	313	-	-.10	2	1	269
1900	318	-	-.04	3	1	299
2000	318	-	-.04	3	1	344
2100	318	-	-.04	3	1	209
2200	324	-	-.06	1	1	126
2300	334	-	-.04	0	1	89
2400	345	-	-.04	0	1	49

CO₂ content and related dataDay 329
November 25, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.04	0	1	83
0200	345	-	-.04	0	1	62
0300	345	-	-.04	0	1	48
0400	345	-	-	0	1	21
0500	340	-	-	1	1	69
0600	329	-	-.06	1	1	-
0700	334	-	-.12	0	1	90
0800	345	0.04	-.04	0	0	37
0900	340	.16	.10	1	1	130
1000	329	.16	.12	1	1	134
1100	324	.32	.24	1	3	81
1200	318	.40	.28	2	4	176
1300	318	.40	.24	3	5	261
1400	318	.28	.16	3	4	211
1500	318	.20	.08	2	4	196
1600	318	.04	-.06	2	3	228
1700	318	.00	-.12	0	2	148
1800	329	-	-.16	-1	1	114
1900	334	-	-.16	-2	1	54
2000	340	-	-.16	-4	1	68
2100	351	-	-.16	-5	1	59
2200	351	-	-.16	-5	0	57
2300	356	-	-.16	-6	0	94
2400	356	-	-.14	-7	0	94

CO₂ content and related dataDay 330
November 26, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.16	-6	0	161
0200	351	-	-.16	-6	0	123
0300	362	-	-.14	-8	0	67
0400	362	-	-.14	-7	-1	143
0500	362	-	-.14	-9	-1	111
0600	367	-	-.14	-8	-1	-
0700	367	-	-.14	-9	-1	75
0800	367	0.24	-.04	-6	-1	39
0900	356	.42	.16	-2	0	19
1000	345	.54	.30	1	0	54
1100	345	.66	.42	2	0	102
1200	329	.72	.44	5	1	117
1300	329	.66	.38	6	2	207
1400	318	.52	.24	7	3	273
1500	308	.32	.08	8	3	183
1600	308	.04	-.12	7	2	70
1700	308	.00	-.14	2	1	81
1800	324	-	-.14	-1	1	113
1900	329	-	-.14	-2	0	144
2000	340	-	-.14	-3	0	120
2100	351	-	-.14	-4	0	92
2200	351	-	-.14	-5	0	60
2300	362	-	-.14	-5	0	119
2400	367	-	-.12	-7	0	69

CO₂ content and related data

Day 331
November 27, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	362	-	-0.12	-7	0	117
0200	373	-	-.12	-8	-1	94
0300	373	-	-.12	-7	-1	86
0400	373	-	-.12	-7	-1	-
0500	373	-	-.12	-7	-1	-
0600	373	-	-.12	-8	-2	-
0700	367	-	-.12	-7	-2	-
0800	362	0.24	-.06	-4	-1	181
0900	356	.46	.14	2	-1	134
1000	351	.56	.34	5	0	120
1100	340	.68	.42	7	0	182
1200	329	.70	.44	9	1	104
1300	318	.66	.40	10	2	122
1400	308	.52	.26	11	3	165
1500	302	.32	.08	11	3	157
1600	302	.04	-.10	5	2	87
1700	318	-	-.12	1	1	82
1800	324	-	-.12	-1	0	145
1900	329	-	-.12	-2	0	123
2000	340	-	-.12	-2	0	50
2100	351	-	-.12	-4	0	82
2200	351	-	-.12	-4	0	112
2300	351	-	-.12	-4	0	-
2400	367	-	-.12	-5	0	-

CO₂ content and related data

Day 332
November 28, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	362	-	-0.12	-5	0	123
0200	373	-	-.12	-5	0	77
0300	367	-	-.12	-5	-1	85
0400	373	-	-.12	-5	-1	-
0500	384	-	-.12	-6	-1	74
0600	373	-	-.12	-6	-1	81
0700	373	-	-.12	-6	-1	82
0800	373	0.24	-.04	-4	-1	103
0900	356	.42	.16	3	0	32
1000	351	.56	.34	7	0	30
1100	334	.64	.44	11	0	52
1200	318	.68	.46	12	2	108
1300	308	.64	.40	14	3	175
1400	297	.52	.28	16	5	165
1500	292	.32	.10	15	5	220
1600	292	.04	-.08	9	4	58
1700	308	-	-.10	4	2	57
1800	324	-	-.10	0	1	136
1900	329	-	-.10	-1	1	80
2000	334	-	-.10	-2	0	126
2100	351	-	-.10	-2	0	104
2200	351	-	-.10	-2	0	142
2300	345	-	-.10	-2	0	66
2400	351	-	-.10	-2	0	105

CO₂ content and related data

Day 333
November 29, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.10	-2	0	112
0200	351	-	-.10	-3	0	128
0300	351	-	-.10	-4	0	163
0400	356	-	-.10	-4	0	150
0500	367	-	-.10	-4	0	120
0600	367	-	-.10	-5	0	67
0700	367	-	-.10	-5	-1	125
0800	367	0.20	.04	-2	0	96
0900	345	.32	.14	5	0	84
1000	334	.52	.30	10	0	79
1100	324	.54	.34	12	0	86
1200	297	.64	.44	14	2	196
1300	292	.60	.40	16	5	250
1400	281	.36	.12	15	6	256
1500	281	.24	.00	13	6	103
1600	282	-	-.10	7	4	103
1700	302	-	-.10	2	2	137
1800	308	-	- 10	0	1	124
1900	318	-	-.10	-1	1	133
2000	324	-	-.10	-1	1	152
2100	324	-	-.10	-1	0	112
2200	324	-	-.10	-1	0	170
2300	329	-	-.10	-2	0	153
2400	329	-	-.10	-2	0	157

CO₂ content and related dataDay 334
November 30, 1962

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	334	-	-0.10	-3	0	120
0200	340	-	-.10	-3	0	119
0300	334	-	-.10	-3	0	149
0400	340	-	-.10	-3	0	122
0500	340	-	-.10	-3	-1	148
0600	334	-	-.10	-3	-1	120
0700	340	-	-.10	-3	-1	108
0800	340	0.18	.00	0	0	43
0900	329	.42	.20	6	0	169
1000	318	.60	.30	11	0	122
1100	308	.68	.44	16	1	28
1200	292	.68	.44	16	4	136
1300	281	.52	.34	17	7	214
1400	276	.48	.18	17	8	189
1500	276	.24	.02	13	7	84
1600	276	.02	-.10	7	5	76
1700	302	-	-.10	4	3	137
1800	308	-	-.10	1	2	145
1900	313	-	-.12	0	1	155
2000	318	-	-.12	0	1	163
2100	324	-	-.10	-1	1	122
2200	329	-	-.10	-1	1	151
2300	329	-	-.10	-1	0	129
2400	329	-	-.10	-1	0	144

CO₂ content and related dataDay 335
December 1, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	329	-	-0.10	-2	0	141
0200	329	-	-.10	-1	0	163
0300	329	-	-.10	-2	0	156
0400	329	-	-.10	-1	0	156
0500	329	-	-.10	-2	0	99
0600	329	-	-.10	-2	0	129
0700	334	-	-.10	-2	0	85
0800	334	0.18	.00	-1	0	97
0900	329	.38	.16	6	0	153
1000	324	.56	.34	11	0	42
1100	313	.64	.42	14	1	87
1200	302	.68	.42	14	4	240
1300	308	.56	.36	14	7	275
1400	302	.44	.22	13	8	291
1500	297	.23	.06	12	7	194
1600	302	-	-.11	10	5	145
1700	318	-	-.12	4	3	118
1800	334	-	-.11	0	2	112
1900	340	-	-.11	-1	1	125
2000	345	-	-.10	-1	1	119
2100	345	-	-.10	-1	1	115
2200	351	-	-.10	-1	1	106
2300	356	-	-.09	-4	0	89
2400	362	-	-.09	-4	0	86

CO₂ content and related data

Day 336
December 2, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	362	-	-0.09	-5	0	80
0200	362	-	-.09	-5	0	86
0300	362	-	-.09	-5	0	81
0400	367	-	-.09	-5	0	116
0500	362	-	-.09	-4	0	127
0600	356	-	-.09	-4	0	100
0700	356	-	-.09	-4	-1	-
0800	362	0.14	-.05	0	-1	235
0900	340	.30	0.13	5	0	227
1000	334	.46	.31	9	0	263
1100	329	.58	.43	11	0	288
1200	318	.61	.45	12	3	276
1300	308	.57	.38	13	6	363
1400	302	.46	.26	13	7	350
1500	302	.30	.11	13	6	264
1600	302	.10	-.06	11	5	193
1700	308	-	-.12	6	3	174
1800	318	-	-.12	2	2	146
1900	329	-	-.11	0	1	146
2000	334	-	-.11	-1	1	94
2100	334	-	-.11	-1	1	148
2200	340	-	-.11	-2	1	116
2300	340	-	-.12	-1	1	200
2400	340	-	-.11	-2	0	159

CO₂ content and related data

Day 337
December 3, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.11	-2	0	166
0200	351	-	-.10	-3	0	-
0300	345	-	-.10	-3	0	100
0400	356	-	-.10	-4	0	113
0500	356	-	-.10	-4	0	144
0600	356	-	-.10	-3	0	-
0700	356	-	-.10	-4	-1	149
0800	362	0.02	-.06	-1	-1	188
0900	351	.18	0.04	4	0	-
1000	351	.36	.24	7	0	-
1100	340	.49	.32	9	0	268
1200	329	.54	.37	10	1	204
1300	324	.58	.40	12	5	124
1400	318	.44	.27	13	7	168
1500	313	.28	.13	13	7	159
1600	308	.10	.00	12	6	187
1700	313	-	-.10	8	5	187
1800	324	-	-.09	5	4	202
1900	334	-	-.08	3	3	186
2000	340	-	-.09	1	2	140
2100	340	-	-.09	1	1	140
2200	340	-	-.09	2	1	144
2300	340	-	-.09	1	1	163
2400	345	-	-.09	1	1	114

CO₂ content and related dataDay 338
December 4, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.09	-1	1	151
0200	345	-	-.11	0	0	193
0300	340	-	-.11	3	0	-
0400	340	-	-.12	3	0	-
0500	340	-	-.12	3	0	241
0600	334	-	-.12	2	0	238
0700	334	-	-.12	2	0	258
0800	334	0.10	-.06	3	0	264
0900	334	.26	0.10	5	0	239
1000	329	.46	.28	9	0	243
1100	324	.54	.37	11	3	302
1200	313	.52	.33	12	6	349
1300	308	.54	.35	13	7	343
1400	302	.48	.26	14	9	351
1500	297	.24	.04	13	7	304
1600	297	.07	-.05	11	6	102
1700	308	-	-.10	8	5	179
1800	318	-	-.09	3	4	109
1900	329	-	-.09	2	2	113
2000	334	-	-.10	1	2	159
2100	334	-	-.09	-2	1	155
2200	340	-	-.08	-1	1	119
2300	345	-	-.09	-2	1	172
2400	345	-	-.09	-2	1	191

CO₂ content and related data

Day 339
December 5, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	351	-	-0.08	-3	0	36
0200	356	-	-.08	-3	0	105
0300	356	-	-.08	-4	0	158
0400	345	-	-.07	-3	0	-
0500	345	-	-.04	1	0	-
0600	340	-	-.04	1	0	109
0700	345	-	-.04	0	0	134
0800	345	0.01	-.07	-1	0	195
0900	340	.06	0.03	-1	0	129
1000	329	.13	.08	4	0	123
1100	329	.22	.17	5	0	179
1200	324	.42	.32	8	1	188
1300	313	.36	.26	8	4	270
1400	313	.20	.15	8	5	-
1500	313	.03	-	4	4	221
1600	313	-	-	4	4	294
1700	318	-	-	4	4	505
1800	318	-	-	3	4	349
1900	318	-	-	3	4	379
2000	318	-	-	3	4	288
2100	324	-	-	5	4	231
2200	324	-	-.03	6	4	312
2300	324	-	-.04	6	4	395
2400	329	-	-.04	6	4	457

CO₂ content and related dataDay 340
December 6, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	324	-	-0.05	5	4	482
0200	324	-	-.06	5	4	405
0300	324	-	-.06	5	4	497
0400	329	-	-.04	6	4	408
0500	329	-	-.04	6	4	499
0600	329	-	-.03	7	4	364
0700	324	-	-.03	7	4	278
0800	324	-	-.03	7	4	483
0900	324	-	.00	8	5	371
1000	324	-	-.02	7	5	421
1100	324	0.02	-	7	5	248
1200	324	.02	-	6	5	266
1300	324	.01	-	6	5	79
1400	324	.00	-	6	5	146
1500	324	.03	-	7	5	-
1600	324	-	-	9	6	-
1700	324	-	-	7	6	-
1800	329	-	-	5	5	-
1900	334	-	-	4	4	-
2000	334	-	-	2	4	-
2100	340	-	-.04	1	3	-
2200	340	-	-.03	1	2	-
2300	340	-	-.03	0	2	-
2400	345	-	-.03	0	1	-

CO₂ content and related data

Day 341
December 7, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.03	-1	1	-
0200	345	-	-.03	-2	1	-
0300	345	-	-.02	-2	1	-
0400	345	-	-.02	-2	1	-
0500	351	-	-.02	-3	1	-
0600	351	-	-.02	-3	1	-
0700	351	-	-.02	-3	1	-
0800	351	-	-.02	-2	1	-
0900	345	0.01	-.01	-2	1	-
1000	308	.06	.00	0	1	-
1100	308	.13	0.01	0	1	-
1200	313	.12	-	0	1	316
1300	308	.02	-	0	1	185
1400	308	-	-	0	1	198
1500	313	-	-	0	1	170
1600	313	-	-	0	1	177
1700	313	-	-.01	0	1	153
1800	313	-	-.02	0	1	244
1900	313	-	-.02	0	1	237
2000	313	-	-	0	1	275
2100	313	-	-.03	0	1	319
2200	318	-	-.03	0	1	281
2300	318	-	-.03	0	1	298
2400	318	-	-.02	0	1	365

CO₂ content and related dataDay 342
December 8, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	324	-	-0.02	0	1	336
0200	324	-	-.03	0	1	313
0300	324	-	-.02	0	1	231
0400	329	-	-.02	0	1	268
0500	329	-	-.02	0	1	254
0600	329	-	-.02	0	1	289
0700	329	-	-.02	0	1	242
0800	329	-	-.01	0	1	221
0900	329	0.02	.00	0	1	-
1000	329	.06	0.01	0	1	125
1100	329	.02	.04	0	1	164
1200	329	.22	.04	0	0	216
1300	324	.30	.04	1	0	214
1400	318	.26	-.05	1	0	178
1500	313	.21	-.08	1	0	226
1600	313	-	-.09	-1	0	183
1700	324	-	-.07	-5	0	102
1800	324	-	-.06	-5	0	114
1900	334	-	-.06	-8	0	111
2000	340	-	-.04	-8	0	138
2100	345	-	-.05	-9	0	114
2200	345	-	-.04	-10	0	138
2300	356	-	-.02	-9	0	122
2400	351	-	-.06	-9	0	100

CO₂ content and related data

Day 343
December 9, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.02	-6	0	181
0200	351	-	-.01	-6	0	82
0300	351	-	-.02	-6	0	111
0400	345	-	-.04	-4	0	145
0500	345	-	-.02	-5	0	-
0600	345	-	-.04	-5	0	121
0700	345	-	-.01	-5	0	129
0800	345	-	-.01	-4	0	149
0900	345	0.06	0.01	-3	0	166
1000	340	.16	.01	-3	0	202
1100	334	.12	.02	-2	0	112
1200	-	-	-	-	-	68
1300	313	.14	.03	-1	0	51
1400	308	.04	.03	-2	0	73
1500	313	.01	.01	-2	0	161
1600	313	-	.00	-3	0	200
1700	313	-	-.01	-3	0	216
1800	313	-	-.01	-3	0	157
1900	313	-	-.01	-3	0	253
2000	313	-	-.01	-3	0	-
2100	313	-	-.02	-4	0	-
2200	313	-	-.02	-4	0	512
2300	313	-	-.02	-5	0	-
2400	318	-	-.01	-5	0	315

CO₂ content and related dataDay 344
December 10, 1962

Time (EST)	CO ₂ (ppm)	R _L (ly/min)	R _N (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	318	-	-0.02	-5	0	416
0200	318	-	-.02	-6	0	316
0300	318	-	-.05	-7	0	267
0400	324	-	-.09	-8	0	173
0500	324	-	-.07	-9	0	145
0600	324	-	-.03	-8	0	144
0700	324	-	-.07	-8	0	175
0800	329	-	-.10	-8	0	288
0900	329	0.30	-.05	-7	0	219
1000	324	.12	0.02	-7	0	173
1100	324	.06	.00	-7	0	244
1200	324	.11	.01	-6	0	208
1300	324	.11	-.01	-4	0	304
1400	324	.16	-.01	-4	0	389
1500	324	.08	-.04	-4	0	341
1600	313	.01	-.04	-4	0	372
1700	313	-	-.08	-4	0	304
1800	313	-	-.10	-5	0	259
1900	313	-	-.06	-5	0	226
2000	313	-	-.03	-6	0	276
2100	313	-	-.03	-6	0	336
2200	313	-	-.03	-6	0	254
2300	318	-	-.03	-8	0	235
2400	313	-	-.03	-8	0	171

CO₂ content and related data

Day 345
December 11, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	313	-	-0.02	-9	0	189
0200	313	-	-.04	-9	0	233
0300	318	-	-.09	-10	0	227
0400	318	-	-.09	-11	0	-
0500	318	-	-.07	-10	0	164
0600	318	-	-.09	-11	0	170
0700	324	-	-.07	-12	0	111
0800	324	0.02	-.08	-12	0	223
0900	324	.15	-.03	-10	0	196
1000	324	.34	0.01	-9	0	188
1100	318	.46	.00	-7	0	256
1200	313	.28	.02	-8	0	212
1300	313	.22	.02	-7	0	198
1400	313	.16	.01	-8	0	240
1500	313	.14	.02	-7	0	128
1600	313	.05	-.05	-8	0	139
1700	318	-	-.07	-11	0	112
1800	324	-	-.08	-14	0	148
1900	329	-	-.07	-15	0	122
2000	340	-	-.06	-18	0	109
2100	345	-	-.07	-19	0	90
2200	351	-	-.06	-18	0	-
2300	351	-	-.00	-17	0	-
2400	345	-	-.08	-15	0	93

CO₂ content and related data

Day 346
December 12, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)	Wind (cm/sec)
0100	345	-	-0.07	-17	0	121
0200	345	-	-.07	-18	0	104
0300	345	-	-.07	-19	0	95
0400	345	-	-.08	-20	0	-
0500	351	-	-.07	-21	0	-
0600	351	-	-.07	-22	0	-
0700	356	-	-.07	-22	0	91
0800	356	0.12	-.07	-21	0	-
0900	356	.37	-.04	-17	0	-
1000	340	.50	-.01	-11	0	-
1100	329	.57	0.01	-8	0	256
1200	318	.58	.00	-7	0	346
1300	313	.45	-.01	-7	0	458
1400	313	.20	-.01	-7	0	416
1500	-	.20	-.06	-7	0	415
1600	302	.05	-.07	-8	0	374
1700	313	-	-.08	-9	0	248
1800	318	-	-.07	-10	0	66
1900	324	-	-.06	-10	0	-
2000	324	-	-.02	-10	0	-
2100	329	-	-.03	-10	0	-
2200	329	-	-.01	-10	0	-
2300	329	-	-.04	-10	0	-
2400	334	-	-.02	-10	0	-

CO₂ content and related data

Day 347
December 13, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	329	-	-0.02	-11	0
0200	329	-	-.03	-11	0
0300	334	-	-.07	-11	0
0400	334	-	-.09	-14	0
0500	340	-	-.09	-16	0
0600	340	-	-.08	-15	0
0700	340	-	-.08	-15	0
0800	340	0.09	-.07	-15	0
0900	340	.36	-.06	-11	0
1000	334	.36	-.05	-11	0
1100	329	.58	-.02	-10	0
1200	329	.62	-.01	-9	0
1300	324	.56	-.03	-9	0
1400	313	.31	.00	-10	0
1500	308	.27	-.02	-10	0
1600	313	.09	-.10	-11	0
1700	318	-	-.08	-11	0
1800	324	-	-.03	-11	0
1900	329	-	-.01	-12	0
2000	329	-	-.01	-12	0
2100	329	-	-.03	-12	0
2200	329	-	-.02	-13	0
2300	334	-	-.01	-13	0
2400	329	-	-.01	-13	0

CO₂ content and related dataDay 348
December 14, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	334	-	-0.01	-13	0
0200	334	-	-.02	-13	0
0300	334	-	-.01	-13	0
0400	334	-	-.02	-12	0
0500	334	-	-.03	-12	0
0600	334	-	.00	-12	0
0700	334	-	.00	-12	0
0800	334	0.02	.00	-11	0
0900	334	.07	.00	-10	0
1000	324	.42	-.03	-8	0
1100	329	.34	0.02	-8	0
1200	329	.56	.03	-9	0
1300	329	.38	.00	-10	0
1400	313	.29	.00	-10	0
1500	313	.26	-.02	-10	0
1600	313	.06	-.04	-10	0
1700	313	-	-.09	-11	0
1800	318	-	-.09	-12	0
1900	324	-	-.09	-12	0
2000	324	-	-.07	-12	0
2100	329	-	-.09	-14	0
2200	334	-	-.07	-17	0
2300	334	-	-.07	-18	0
2400	334	-	-.07	-19	0

CO₂ content and related dataDay 349
December 15, 1962

Time (EST)	CO ₂ (ppm)	R _l (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	334	-	-0.07	-20	0
0200	334	-	-.06	-21	0
0300	334	-	-.04	-20	-1
0400	334	-	.00	-18	-1
0500	329	-	.00	-16	-1
0600	329	-	-.01	-13	-1
0700	324	-	-.02	-12	-1
0800	324	0.02	-.01	-11	-1
0900	324	.18	0.02	-11	-1
1000	324	.30	.04	-9	-1
1100	318	.53	.04	-7	-1
1200	318	.59	.04	-6	-1
1300	318	.49	.05	-6	-1
1400	318	.29	.01	-6	-1
1500	318	.16	.00	-6	-1
1600	318	.01	-.02	-6	-1
1700	313	-	-.02	-7	-1
1800	318	-	-.02	-6	-1
1900	318	-	-.02	-7	-1
2000	324	-	-.02	-7	-1
2100	324	-	-.02	-7	-1
2200	329	-	-.03	-7	-1
2300	329	-	-.03	-7	-1
2400	329	-	-.04	-8	-1

CO₂ content and related dataDay 350
December 16, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	329	-	-0.01	-7	-1
0200	329	-	-.02	-7	-1
0300	329	-	-.02	-7	-1
0400	334	-	-.03	-8	-1
0500	334	-	-.06	-10	-1
0600	340	-	-.05	-12	-1
0700	345	-	.00	-13	-1
0800	340	0.02	0.01	-11	-1
0900	340	.14	.02	-9	-1
1000	334	.35	.00	-6	-1
1100	334	.36	.02	-5	-1
1200	329	.51	.01	-4	-1
1300	318	.48	-.03	-3	-1
1400	313	.38	-.02	-2	-1
1500	313	.17	-.05	-3	0
1600	318	.01	-.12	-5	0
1700	329	-	-.09	-9	0
1800	334	-	-.07	-12	0
1900	340	-	-.08	-14	-1
2000	345	-	-.08	-15	-1
2100	345	-	-.07	-16	-1
2200	345	-	-.04	-14	-1
2300	340	-	-.02	-11	-1
2400	334	-	-.03	-10	-1

CO₂ content and related data

Day 351
December 17, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	334	-	-0.02	-8	-1
0200	334	-	.00	-7	-1
0300	334	-	-.02	-7	-1
0400	329	-	-.01	-6	-1
0500	329	-	-.06	-7	-1
0600	329	-	-.01	-6	-1
0700	329	-	-.01	-6	-1
0800	329	-	-.05	-6	-1
0900	334	-	-.09	-4	-1
1000	334	-	-.02	-2	-1
1100	334	-	-.03	0	-1
1200	334	-	-.02	1	-1
1300	334	-	.00	0	-1
1400	334	-	-.03	-2	-1
1500	334	-	-.03	-2	-1
1600	334	-	-.07	-1	0
1700	334	-	-.08	-1	0
1800	334	-	-	-1	0
1900	334	-	-	-	0
2000	329	-	-	1	0
2100	329	-	-	0	0
2200	329	-	-	0	0
2300	329	-	-	0	0
2400	329	-	-	0	0

CO₂ content and related dataDay 352
December 18, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	329	-	-	0	0
0200	329	-	-	0	0
0300	329	-	-	9	0
0400	329	-	-	13	0
0500	334	-	-	16	0
0600	334	-	-	16	0
0700	329	-	-	16	0
0800	334	-	-	15	0
0900	329	-	-	16	0
1000	329	-	-	16	0
1100	329	0.02	-	13	0
1200	329	.06	0.01	8	0
1300	329	.05	.02	1	0
1400	324	-	-.02	1	0
1500	324	-	-.02	1	0
1600	324	-	-.01	1	0
1700	329	-	-.02	1	0
1800	334	-	-.02	1	0
1900	334	-	-.03	0	0
2000	340	-	-.05	0	0
2100	345	-	-.04	0	0
2200	345	-	-.10	-1	0
2300	345	-	-.10	-2	0
2400	345	-	-.07	-4	0

CO₂ content and related dataDay 353
December 19, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	340	-	-0.06	-4	0
0200	334	-	-.05	-2	0
0300	329	-	-.08	0	0
0400	324	-	-.12	0	0
0500	324	-	-.12	0	0
0600	329	-	-.09	0	0
0700	329	-	-.07	0	0
0800	329	-	-.02	1	0
0900	329	0.08	.00	2	0
1000	329	.06	0.02	3	0
1100	324	.06	.02	4	0
1200	329	.04	.04	5	0
1300	324	.05	.04	5	0
1400	324	-	.06	4	0
1500	329	-	.02	4	0
1600	334	-	.01	3	0
1700	334	-	.00	4	0
1800	334	-	-.02	3	0
1900	334	-	-.02	3	0
2000	329	-	-.02	3	0
2100	329	-	-.02	3	0
2200	329	-	-.03	3	0
2300	329	-	-.04	2	0
2400	329	-	-.04	2	0

CO₂ content and related data

Day 354
December 20, 1962

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	R _n (ly/min)	T _{air} (°C)	T _{soil} (°C)
0100	324	-	-0.04	0	0
0200	329	-	-.04	0	0
0300	329	-	-.04	-3	0
0400	329	-	-.04	-5	0
0500	329	-	-.06	-6	0
0600	329	-	-.12	-8	0
0700	334	-	-.08	-9	0
0800	334	-	-.05	-9	0
0900	334	0.20	-.10	-10	0
1000	334	.44	-.01	-9	0
1100	334	.59	0.04	-9	0
1200	329	.50	.04	-10	0
1300	329	.45	-.01	-10	0
1400	-	-	-	-	-
1500	-	-	-	-	-
1600	-	-	-	-	-
1700	-	-	-	-	-
1800	-	-	-	-	-
1900	-	-	-	-	-
2000	-	-	-	-	-
2100	-	-	-	-	-
2200	-	-	-	-	-
2300	-	-	-	-	-
2400	-	-	-	-	-

CO₂ content and related data

Day 24
January 24, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	337	-	-
0100	337	-	195
0130	337	-	166
0200	337	-	159
0230	337	-	164
0300	331	-	176
0330	337	-	172
0400	337	-	168
0430	337	-	179
0500	337	-	181
0530	337	-	172
0600	343	-	156
0630	343	-	165
0700	343	-	166
0730	343	-	166
0800	343	0.03	158
0830	-	0.06	179
0900	-	0.09	236
0930	334	0.10	291
1000	318	0.18	346
1030	323	0.18	328
1100	334	0.27	336
1130	334	0.38	254
1200	345	0.46	273
1230	350	0.49	257
1300	350	0.33	162
1330	345	0.33	226
1400	340	0.20	242
1430	340	0.25	286
1500	329	0.16	298
1530	323	0.17	284
1600	334	0.12	262
1630	340	0.05	221
1700	345	0.01	223
1730	345	-	245
1800	350	-	256
1830	350	-	242
1900	350	-	219
1930	356	-	266
2000	356	-	335
2030	356	-	264
2100	356	-	230
2130	350	-	264
2200	350	-	284
2230	350	-	372
2300	350	-	377
2330	350	-	345
2400	356	-	336

Day 25
January 25, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	356	-	356
0100	356	-	319
0130	356	-	340
0200	356	-	343
0230	350	-	402
0300	350	-	361
0330	350	-	459
0400	350	-	375
0430	350	-	435
0500	345	-	425
0530	345	-	349
0600	345	-	393
0630	340	-	460
0700	340	-	390
0730	340	-	333
0800	340	0.01	360
0830	334	0.02	360
0900	334	0.03	379
0930	334	0.05	392
1000	334	0.02	405
1030	334	0.01	324
1100	334	0.03	443
1130	334	0.02	319
1200	334	-	149
1230	334	-	176
1300	334	-	423
1330	334	-	385
1400	334	-	368
1430	334	-	351
1500	334	-	311
1530	334	-	412
1600	329	-	496
1630	329	-	397
1700	329	-	340
1730	329	-	324
1800	334	-	246
1830	334	-	293
1900	334	-	89
1930	334	-	406
2000	340	-	79
2030	340	-	89
2100	345	-	111
2130	345	-	121
2200	345	-	124
2230	345	-	170
2300	325	-	140
2330	345	-	204
2400	345	-	244

Day 30
January 30, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	334	-	178
0100	334	-	178
0130	334	-	80
0200	334	-	71
0230	334	-	71
0300	334	-	71
0330	340	-	120
0400	340	-	89
0430	340	-	124
0500	340	-	124
0530	340	-	124
0600	340	-	157
0630	340	-	204
0700	340	-	161
0730	340	-	295
0800	340	0.03	328
0830	340	0.04	208
0900	340	0.05	208
0930	340	0.17	208
1000	334	0.18	618
1030	334	0.13	645
1100	334	0.12	678
1130	340	0.10	742
1200	340	0.31	644
1230	340	0.41	688
1300	340	0.44	664
1330	334	0.29	653
1400	334	0.32	561
1430	334	0.32	465
1500	334	0.32	508
1530	334	0.25	448
1600	334	0.19	338
1630	334	0.06	331
1700	340	0.02	293
1730	340	-	194
1800	340	-	105
1830	350	-	67
1900	350	-	71
1930	350	-	53
2000	356	-	64
2030	356	-	58
2100	350	-	111
2130	350	-	84
2200	350	-	95
2230	361	-	100
2300	356	-	100
2330	361	-	125
2400	361	-	125

CO₂ content and related dataDay 39
February 8, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	340	-	-
0100	340	-	-
0130	340	-	-
0200	345	-	-
0230	340	-	-
0300	345	-	-
0330	345	-	-
0400	350	-	-
0430	356	-	-
0500	350	-	-
0530	350	-	-
0600	356	-	-
0630	356	-	-
0700	356	-	-
0730	361	0.02	-
0800	350	0.06	-
0830	356	0.26	-
0900	345	0.14	-
0930	340	0.36	-
1000	340	0.32	-
1030	340	0.36	-
1100	340	0.40	-
1130	340	0.39	-
1200	340	0.48	-
1230	340	0.36	-
1300	340	0.40	341
1330	340	0.44	311
1400	340	0.41	273
1430	340	0.39	442
1500	340	0.13	396
1530	340	0.24	517
1600	340	0.20	529
1630	340	0.06	430
1700	340	0.09	322
1730	340	0.02	309
1800	340	-	290
1830	340	-	281
1900	345	-	410
1930	345	-	272
2000	345	-	305
2030	350	-	253
2100	350	-	-
2130	350	-	308
2200	350	-	426
2230	350	-	385
2300	350	-	399
2330	350	-	373
2400	350	-	500

CO₂ content and related data

Day 40
February 9, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	350	-	451
0100	350	-	439
0130	350	-	480
0200	350	-	464
0230	356	-	350
0300	350	-	416
0330	356	-	493
0400	356	-	424
0430	356	-	398
0500	356	-	393
0530	356	-	393
0600	356	-	393
0630	356	-	382
0700	356	-	393
0730	361	0.01	355
0800	361	0.03	376
0830	361	0.06	376
0900	361	0.20	376
0930	356	0.34	376
1000	356	0.59	376
1030	356	0.87	376
1100	356	0.88	376
1130	350	0.84	309
1200	350	0.86	305
1230	350	0.87	279
1300	350	0.85	268
1330	350	0.81	398
1400	350	0.74	305
1430	350	0.65	304
1500	350	0.55	278
1530	350	0.45	293
1600	350	0.30	229
1630	350	0.18	200
1700	350	0.05	136
1730	350	0.01	67
1800	350	-	55
1830	-	-	-
1900	-	-	-
1930	-	-	-
2000	-	-	-
2030	-	-	-
2100	-	-	-
2130	-	-	-
2200	-	-	-
2230	-	-	-
2300	-	-	-
2330	-	-	-
2400	-	-	-

CO₂ content and related data

Day 41
February 10, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	-	-	-
0100	-	-	-
0130	-	-	-
0200	-	-	-
0230	-	-	-
0300	-	-	-
0330	-	-	-
0400	-	-	-
0430	-	-	-
0500	-	-	-
0530	-	-	-
0600	-	-	-
0630	-	-	-
0700	-	-	-
0730	-	0.02	-
0800	-	0.11	-
0830	-	0.22	-
0900	-	0.27	-
0930	-	0.36	-
1000	-	0.39	-
1030	-	0.52	-
1100	329	0.59	216
1130	334	0.63	247
1200	340	0.90	269
1230	340	0.85	260
1300	340	0.74	305
1330	340	0.78	280
1400	340	0.80	294
1430	334	0.83	325
1500	334	0.50	287
1530	334	0.41	267
1600	329	0.29	244
1630	329	0.20	214
1700	329	0.16	141
1730	329	0.01	95
1800	329	-	61
1830	329	-	82
1900	329	-	86
1930	334	-	95
2000	334	-	111
2030	340	-	92
2100	340	-	93
2130	345	-	72
2200	345	-	86
2230	350	-	86
2300	350	-	97
2330	356	-	82
2400	356	-	74

CO₂ content and related data

Day 44
February 13, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	366	-	119
0100	366	-	148
0130	355	-	162
0200	355	-	143
0230	355	-	174
0300	355	-	126
0330	355	-	157
0400	355	-	262
0430	355	-	221
0500	355	-	199
0530	355	-	220
0600	355	-	268
0630	355	-	408
0700	355	-	387
0730	355	0.01	342
0800	355	0.04	317
0830	-	0.04	255
0900	-	0.08	262
0930	-	0.08	267
1000	329	0.05	304
1030	340	0.04	327
1100	345	0.10	372
1130	356	0.09	369
1200	361	0.18	313
1230	361	0.19	306
1300	361	0.13	279
1330	361	0.28	269
1400	361	0.33	210
1430	361	0.25	183
1500	361	0.18	199
1530	361	0.14	227
1600	361	0.08	189
1630	361	0.05	185
1700	361	0.22	216
1730	356	0.22	190
1800	356	0.01	214
1830	356	-	135
1900	356	-	118
1930	356	-	99
2000	356	-	93
2030	361	-	133
2100	361	-	191
2130	356	-	183
2200	356	-	183
2230	361	-	183
2300	361	-	183
2330	361	-	149
2400	361	-	118

CO₂ content and related dataDay 45
February 14, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	351	-	149
0100	361	-	198
0130	361	-	255
0200	361	-	224
0230	361	-	277
0300	356	-	307
0330	356	-	382
0400	361	-	576
0430	356	-	340
0500	356	-	337
0530	356	-	397
0600	356	-	442
0630	356	-	381
0700	356	0.01	357
0730	356	0.02	410
0800	356	0.03	603
0830	356	0.17	539
0900	356	0.11	566
0930	356	0.06	566
1000	356	0.15	566
1030	356	0.27	779
1100	356	0.42	491
1130	361	0.41	638
1200	361	0.56	564
1230	361	0.27	523
1300	361	0.41	530
1330	361	0.42	538
1400	361	0.30	545
1430	-	0.27	500
1500	-	0.19	561
1530	-	0.26	516
1600	340	0.15	435
1630	350	0.08	378
1700	356	0.04	362
1730	356	-	542
1800	356	-	191
1830	361	-	388
1900	361	-	361
1930	361	-	253
2000	361	-	195
2030	361	-	168
2100	361	-	104
2130	361	-	106
2200	361	-	88
2230	361	-	74
2300	361	-	84
2330	361	-	91
2400	361	-	63

CO₂ content and related dataDay 46
February 15, 1964

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	Wind (m/sec)
0030	361	-	51
0100	361	-	43
0130	361	-	90
0200	367	-	-
0230	367	-	73
0300	367	-	71
0330	367	-	58
0400	373	-	70
0430	367	-	71
0500	361	-	72
0530	356	-	77
0600	361	-	87
0630	356	-	97
0700	361	-	86
0730	361	0.03	88
0800	361	0.22	126
0830	367	0.34	73
0900	361	0.43	130
0930	361	0.54	276
1000	361	0.67	179
1030	361	0.76	220
1100	361	0.84	117
1130	361	0.92	106
1200	361	0.71	245
1230	361	0.86	260
1300	361	0.67	260
1330	361	0.64	235
1400	361	0.65	303
1430	361	0.70	325
1500	361	0.45	306
1530	361	0.20	358
1600	361	0.18	229
1630	356	0.24	206
1700	356	0.17	231
1730	356	0.02	96
1800	356	0.01	95
1830	356	0.01	124
1900	356	-	104
1930	356	-	33
2000	356	-	95
2030	356	-	87
2100	356	-	126
2130	356	-	156
2200	356	-	184
2230	356	-	231
2300	356	-	297
2330	356	-	289
2400	356	-	256

CO₂ content and related dataDay 47
February 16, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	356	-	177
0100	356	-	163
0130	361	-	112
0200	361	-	108
0230	361	-	136
0300	356	-	168
0330	356	-	106
0400	350	-	60
0430	350	-	54
0500	356	-	49
0530	356	-	61
0600	356	-	82
0630	356	-	118
0700	356	0.01	104
0730	350	0.02	142
0800	350	0.02	211
0830	350	0.05	244
0900	350	0.06	266
0930	350	0.08	320
1000	350	0.11	389
1030	345	0.13	440
1100	345	0.15	509
1130	345	0.19	571
1200	345	0.17	568
1230	345	0.24	-
1300	345	0.40	562
1330	345	0.29	695
1400	350	0.40	720
1430	350	0.39	667
1500	350	0.16	687
1530	350	0.15	683
1600	350	0.09	635
1630	350	0.13	618
1700	350	0.04	655
1730	350	0.02	765
1800	350	0.01	694
1830	350	-	611
1900	350	-	580
1930	356	-	594
2000	356	-	636
2030	361	-	613
2100	361	-	522
2130	361	-	414
2200	361	-	366
2230	361	-	346
2300	361	-	351
2330	361	-	347
2400	367	-	333

CO₂ content and related dataDay 48
February 17, 1964

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	Wind (cm/sec)
0030	367	-	397
0100	367	-	411
0130	367	-	426
0200	361	-	417
0230	361	-	396
0300	361	-	443
0330	361	-	434
0400	367	-	365
0430	367	-	348
0500	367	-	306
0530	367	-	198
0600	367	-	83
0630	367	-	82
0700	367	-	62
0730	378	0.04	69
0800	378	0.22	86
0830	373	0.15	102
0900	-	0.45	136
0930	-	0.69	160
1000	-	0.76	217
1030	-	0.80	214
1100	349	0.86	206
1130	349	0.91	107
1200	349	0.95	163
1230	349	0.97	166
1300	349	0.96	200
1330	349	0.80	172
1400	349	0.66	166
1430	349	0.45	119
1500	349	0.63	83
1530	349	0.59	71
1600	349	0.29	62
1630	349	0.27	43
1700	354	0.09	72
1730	354	0.02	109
1800	360	-	124
1830	360	-	129
1900	360	-	154
1930	349	-	154
2000	349	-	182
2030	354	-	-
2100	349	-	206
2130	349	-	210
2200	349	-	162
2230	349	-	139
2300	354	-	154
2330	349	-	141
2400	349	-	92

CO₂ content and related dataDay 49
February 18, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	349	-	173
0100	349	-	181
0130	349	-	173
0200	349	-	166
0230	349	-	180
0300	349	-	188
0330	349	-	216
0400	349	-	170
0430	349	-	166
0500	354	-	108
0530	354	-	192
0600	349	-	154
0630	354	-	136
0700	365	0.01	100
0730	360	0.05	111
0800	365	0.18	123
0830	360	0.32	143
0900	354	0.40	145
0930	349	0.43	190
1000	349	0.65	241
1030	349	0.71	272
1100	349	0.78	275
1130	349	0.70	249
1200	349	0.60	275
1230	349	0.55	289
1300	349	0.54	245
1330	349	0.48	279
1400	349	0.44	274
1430	349	0.43	253
1500	349	0.29	252
1530	349	0.18	274
1600	349	0.15	220
1630	349	0.10	197
1700	349	0.04	226
1730	349	0.02	229
1800	349	0.01	172
1830	349	-	166
1900	349	-	202
1930	349	-	207
2000	349	-	305
2030	349	-	325
2100	349	-	337
2130	354	-	310
2200	360	-	256
2230	360	-	179
2300	360	-	138
2330	360	-	140
2400	360	-	135

CO₂ content and related data

Day 50
February 19, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	360	-	94
0100	360	-	23
0130	354	-	96
0200	349	-	58
0230	349	-	80
0300	349	-	98
0330	349	-	148
0400	349	-	122
0430	349	-	151
0500	349	-	130
0530	349	-	132
0600	-	-	117
0630	-	-	119
0700	-	-	118
0730	-	-	137
0800	-	-	167
0830	-	-	161
0900	-	-	174
0930	-	0.12	201
1000	-	0.23	186
1030	-	0.24	182
1100	340	0.22	175
1130	345	0.27	162
1200	345	0.34	143
1230	345	0.42	514
1300	345	0.39	530
1330	345	0.43	493
1400	345	0.28	-
1430	340	0.34	514
1500	350	0.32	491
1530	350	0.33	551
1600	350	0.34	570
1630	345	0.11	526
1700	345	0.06	557
1730	345	0.02	435
1800	345	-	480
1830	340	-	409
1900	340	-	321
1930	340	-	319
2000	340	-	425
2030	340	-	394
2100	340	-	381
2130	340	-	381
2200	340	-	381
2230	340	-	499
2300	340	-	425
2330	340	-	454
2400	334	-	491

CO₂ content and related data

Day 51
February 20, 1964

Time (EST)	CO ₂ (ppm)	R _i (lv/min)	Wind (cm/sec)
0030	334	-	238
0100	334	-	241
0130	334	-	375
0200	340	-	420
0230	340	-	442
0300	340	-	454
0330	340	-	451
0400	340	-	433
0430	340	-	458
0500	340	-	304
0530	340	-	282
0600	340	-	304
0630	340	0.01	254
0700	340	0.02	360
0730	340	0.03	429
0800	345	0.08	479
0830	340	0.11	569
0900	340	0.19	549
0930	340	0.39	630
1000	340	0.50	613
1030	340	0.74	652
1100	340	0.45	685
1130	340	0.67	617
1200	340	0.42	545
1230	340	0.42	514
1300	340	0.39	530
1330	340	0.43	493
1400	340	0.28	
1430	340	0.34	514
1500	340	0.32	491
1530	340	0.33	551
1600	340	0.34	569
1630	340	0.11	526
1700	340	0.06	557
1730	340	0.02	435
1800	340	-	480
1830	340	-	409
1900	345	-	321
1930	345	-	319
2000	345	-	425
2030	345	-	394
2100	345	-	381
2130	350	-	381
2200	350	-	381
2230	350	-	499
2300	350	-	425
2330	350	-	454
2400	350	-	491

CO₂ content and related data

Day 52
February 21, 1964

Time (EST)	CO ₂ (ppm)	R _i (l/min)	Wind (cm/sec)
0030	350	-	454
0100	350	-	428
0130	350	-	385
0200	350	-	409
0230	350	-	409
0300	350	-	424
0330	350	-	445
0400	350	-	415
0430	350	-	291
0500	350	-	380
0530	350	-	415
0600	350	-	492
0630	350	-	550
0700	350	0.01	511
0730	350	0.05	549
0800	350	0.14	588
0830	350	0.19	521
0900	350	0.22	554
0930	350	0.33	603
1000	350	0.41	627
1030	350	0.52	601
1100	350	0.46	586
1130	350	0.55	595
1200	345	0.69	605
1230	345	0.58	551
1300	340	0.50	643
1330	340	0.67	619
1400	340	0.53	556
1430	340	0.37	566
1500	340	0.40	542
1530	340	0.30	569
1600	340	0.15	520
1630	345	0.09	477
1700	350	0.04	467
1730	350	0.01	420
1800	350	-	481
1830	350	-	416
1900	350	-	360
1930	350	-	277
2000	350	-	229
2030	356	-	247
2100	356	-	330
2130	356	-	296
2200	361	-	293
2230	356	-	258
2300	356	-	269
2330	356	-	251
2400	356	-	240

CO₂ content and related dataDay 53
February 22, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	356	-	280
0100	350	-	344
0130	350	-	336
0200	350	-	310
0230	350	-	358
0300	350	-	353
0330	350	-	443
0400	350	-	401
0430	350	-	352
0500	356	-	334
0530	356	-	301
0600	356	-	251
0630	356	-	286
0700	356	0.02	286
0730	356	0.08	265
0800	361	0.16	251
0830	356	0.27	391
0900	356	0.29	440
0930	356	0.48	383
1000	356	0.49	411
1030	350	0.51	462
1100	350	0.86	478
1130	350	0.62	444
1200	345	0.83	483
1230	345	0.55	494
1300	345	0.96	513
1330	345	0.49	539
1400	345	0.44	518
1430	350	0.39	531
1500	345	0.40	478
1530	345	0.29	426
1600	345	0.22	374
1630	345	0.10	406
1700	345	0.10	355
1730	350	0.03	275
1800	350	0.01	176
1830	-	0.01	125
1900	-	-	91
1930	-	-	71
2000	345	-	61
2030	350	-	86
2100	361	-	69
2130	361	-	96
2200	367	-	80
2230	373	-	72
2300	373	-	91
2330	373	-	75
2400	373	-	98

CO₂ content and related data

Day 54
February 23, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	373	-	81
0100	373	-	99
0130	373	-	90
0200	373	-	69
0230	373	-	95
0300	367	-	91
0330	367	-	111
0400	367	-	98
0430	373	-	114
0500	373	-	127
0530	373	-	127
0600	373	-	126
0630	373	-	103
0700	367	0.01	120
0730	373	0.08	126
0800	367	0.27	117
0830	361	0.37	134
0900	356	0.48	134
0930	350	0.66	134
1000	345	0.76	134
1030	345	0.80	195
1100	345	0.86	152
1130	345	0.95	246
1200	345	0.98	152
1230	345	-	184
1300	345	-	184
1330	345	1.03	163
1400	340	0.90	216
1430	340	0.80	175
1500	340	0.71	201
1530	334	0.59	160
1600	334	0.44	178
1630	334	0.31	170
1700	329	0.16	109
1730	334	0.04	165
1800	334	0.02	172
1830	340	0.01	146
1900	340	-	153
1930	345	-	165
2000	340	-	149
2030	340	-	107
2100	340	-	108
2130	340	-	153
2200	340	-	227
2230	340	-	246
2300	340	-	183
2330	340	-	213
2400	340	-	141

CO₂ content and related dataDay 55
February 24, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	340	-	178
0100	340	-	179
0130	340	-	185
0200	340	-	290
0230	340	-	223
0300	340	-	174
0330	340	-	174
0400	340	-	180
0430	340	-	144
0500	340	-	144
0530	340	-	166
0600	340	-	139
0630	340	-	149
0700	340	0.01	118
0730	340	0.02	150
0800	340	0.01	401
0830	340	0.09	283
0900	340	0.11	342
0930	340	0.30	391
1000	340	0.59	425
1030	340	0.29	425
1100	340	0.37	425
1130	340	0.50	486
1200	340	0.44	499
1230	334	0.41	494
1300	340	0.28	526
1330	340	0.24	393
1400	340	0.34	423
1430	340	0.15	475
1500	340	0.26	543
1530	334	0.24	497
1600	334	0.11	449
1630	340	0.08	404
1700	340	0.05	320
1730	340	0.02	245
1800	340	-	318
1830	340	-	302
1900	340	-	131
1930	340	-	88
2000	340	-	79
2030	345	-	120
2100	350	-	107
2130	350	-	102
2200	345	-	90
2230	350	-	62
2300	350	-	98
2330	350	-	104
2400	350	-	102

CO₂ content and related dataDay 56
February 25, 1964

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	Wind (cm/sec)
0030	350	-	110
0100	356	-	110
0130	350	-	104
0200	350	-	115
0230	350	-	106
0300	350	-	118
0330	350	-	84
0400	350	-	90
0430	350	-	94
0500	350	-	133
0530	356	-	68
0600	350	-	177
0630	345	-	228
0700	340	0.01	265
0730	345	0.03	223
0800	340	0.11	230
0830	340	0.39	256
0900	345	0.70	343
0930	-	0.62	434
1000	-	0.76	482
1030	329	0.66	441
1100	329	0.81	414
1130	334	0.90	483
1200	334	0.95	516
1230	334	0.97	472
1300	334	0.93	400
1330	334	0.86	494
1400	334	0.84	520
1430	334	0.80	411
1500	334	0.52	393
1530	334	0.54	433
1600	334	0.26	371
1630	334	0.17	344
1700	334	0.13	268
1730	334	0.05	265
1800	334	0.02	231
1830	334	0.01	346
1900	334	-	312
1930	334	-	315
2000	334	-	299
2030	334	-	221
2100	334	-	275
2130	329	-	209
2200	329	-	225
2230	329	-	192
2300	329	-	141
2330	329	-	198
2400	334	-	64

CO₂ content and related data

Day 57
February 26, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	334	-	262
0100	334	-	285
0130	334	-	255
0200	334	-	-
0230	329	-	242
0300	329	-	219
0330	329	-	200
0400	329	-	212
0430	329	-	167
0500	329	-	176
0530	329	-	200
0600	329	-	209
0630	329	-	218
0700	329	0.01	297
0730	329	0.01	251
0800	329	0.02	214
0830	329	0.03	192
0900	329	0.03	110
0930	334	0.04	61
1000	334	0.09	101
1030	334	0.13	340
1100	323	0.45	452
1130	318	0.28	430
1200	318	0.44	430
1230	318	0.49	430
1300	318	0.41	430
1330	323	0.48	343
1400	323	0.32	337
1430	318	0.25	328
1500	318	0.53	338
1530	318	0.18	232
1600	318	0.25	277
1630	318	0.17	269
1700	318	0.11	107
1730	318	0.05	55
1800	329	0.01	70
1830	329	-	75
1900	334	-	101
1930	334	-	110
2000	334	-	74
2030	334	-	93
2100	334	-	96
2130	334	-	96
2200	345	-	96
2230	340	-	93
2300	340	-	93
2330	340	-	72
2400	340	-	82

CO₂ content and related dataDay 58
February 27, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	340	-	80
0100	340	-	157
0130	340	-	157
0200	329	-	157
0230	329	-	327
0300	329	-	405
0330	323	-	551
0400	323	-	532
0430	323	-	762
0500	323	-	596
0530	323	-	501
0600	323	-	679
0630	323	-	385
0700	323	0.03	441
0730	323	0.15	486
0800	323	0.33	578
0830	323	0.30	561
0900	323	0.23	490
0930	329	0.42	459
1000	329	0.42	456
1030	329	0.55	406
1100	329	0.49	386
1130	329	0.57	386
1200	329	0.46	386
1230	329	0.48	386
1300	329	-	360
1330	329	-	317
1400	329	1.00	297
1430	329	0.81	224
1500	329	0.70	214
1530	329	0.58	114
1600	329	0.44	152
1630	329	0.29	87
1700	329	0.16	77
1730	329	0.03	77
1800	334	-	123
1830	334	-	123
1900	334	-	143
1930	334	-	165
2000	329	-	194
2030	323	-	172
2100	323	-	119
2130	323	-	119
2200	323	-	119
2230	329	-	161
2300	329	-	152
2330	329	-	172
2400	334	-	217

CO₂ content and related data

Day 63
March 3, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0030	345	-
0100	345	-
0130	345	-
0200	350	-
0230	350	-
0300	350	-
0330	361	-
0400	367	-
0430	367	-
0500	361	-
0530	361	-
0600	361	-
0630	361	-
0700	373	0.02
0730	367	0.08
0800	367	0.14
0830	356	0.22
0900	350	0.32
0930	350	0.60
1000	350	0.80
1030	350	0.74
1100	340	0.76
1130	334	0.86
1200	334	0.92
1230	334	0.82
1300	334	0.80
1330	334	0.76
1400	329	0.70
1430	329	0.64
1500	329	0.54
1530	334	0.44
1600	334	0.34
1630	334	0.22
1700	340	0.10
1730	340	0.02
1800	345	-
1830	350	-
1900	350	-
1930	356	-
2000	373	-
2030	367	-
2100	367	-
2130	367	-
2200	373	-
2230	361	-
2300	367	-
2330	356	-
2400	356	-

CO₂ content and related data

Day 64
March 4, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0030	350	-
0100	350	-
0130	350	-
0200	350	-
0230	345	-
0300	350	-
0330	350	-
0400	345	-
0430	345	-
0500	345	-
0530	345	-
0600	345	-
0630	345	0.02
0700	345	0.06
0730	345	0.14
0800	345	0.16
0830	345	0.22
0900	-	0.16
0930	-	0.30
1000	334	0.30
1030	340	0.22
1100	340	0.14
1130	334	0.18
1200	340	0.20
1230	340	0.12
1300	334	0.22
1330	334	0.16
1400	334	0.12
1430	334	0.10
1500	334	0.08
1530	334	0.02
1600	334	0.04
1630	334	0.06
1700	334	0.02
1730	334	0.02
1800	334	-
1830	340	-
1900	340	-
1930	340	-
2000	340	-
2030	334	-
2100	334	-
2130	334	-
2200	334	-
2230	334	-
2300	334	-
2330	334	-
2400	334	-

CO2 content and related data

Day 66
March 6, 1964

Time (EST)	CO2 (ppm)	Ri (ly/min)
0030	334	-
0100	334	-
0130	329	-
0200	329	-
0230	329	-
0300	329	-
0330	329	-
0400	329	-
0430	329	-
0500	329	-
0530	334	-
0600	334	-
0630	334	-
0700	334	-
0730	329	0.04
0800	334	0.06
0830	340	0.10
0900	-	0.34
0930	-	0.30
1000	334	0.44
1030	340	0.22
1100	345	1.06
1130	345	0.66
1200	345	0.42
1230	345	0.96
1300	345	0.66
1330	345	0.60
1400	345	0.58
1430	345	0.46
1500	345	0.54
1530	345	0.56
1600	345	0.44
1630	345	0.32
1700	340	0.18
1730	340	0.08
1800	345	-
1830	340	-
1900	340	-
1930	334	-
2000	334	-
2030	340	-
2100	340	-
2130	340	-
2200	340	-
2230	340	-
2300	340	-
2330	340	-
2400	340	-

CO₂ content and related data

Day 67
March 7, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0030	340	-
0100	340	-
0130	340	-
0200	340	-
0230	340	-
0300	340	-
0330	340	-
0400	345	-
0430	340	-
0500	340	-
0530	340	-
0600	340	-
0630	340	0.02
0700	340	0.04
0730	340	0.04
0800	345	0.06
0830	340	0.18
0900	340	0.46
0930	345	0.56
1000	345	0.62
1030	345	0.72
1100	345	0.76
1130	345	0.82
1200	340	0.86
1230	340	0.86
1300	340	0.80
1330	334	0.74
1400	334	0.34
1430	329	0.40
1500	334	0.16
1530	334	0.34
1600	334	0.12
1630	329	0.06
1700	329	0.02
1730	334	0.02
1800	334	-
1830	340	-
1900	340	-
1930	345	-
2000	345	-
2030	345	-
2100	345	-
2130	345	-
2200	345	-
2230	345	-
2300	345	-
2330	350	-
2400	350	-

CO₂ content and related data

Day 68
March 8, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (lv/min)
0030	350	-
0100	350	-
0130	356	-
0200	361	-
0230	361	-
0300	356	-
0330	350	-
0400	350	-
0430	350	-
0500	350	-
0530	350	-
0600	345	-
0630	345	-
0700	345	0.02
0730	345	0.02
0800	345	0.02
0830	345	0.10
0900	345	0.10
0930	345	0.14
1000	345	0.16
1030	345	0.08
1100	345	0.12
1130	340	0.10
1200	340	0.14
1230	340	0.20
1300	345	0.16
1330	345	0.10
1400	345	0.08
1430	345	0.04
1500	340	0.08
1530	340	0.06
1600	340	0.08
1630	340	0.10
1700	340	0.04
1730	340	0.02
1800	340	-
1830	334	-
1900	340	-
1930	340	-
2000	340	-
2030	340	-
2100	340	-
2130	340	-
2200	340	-
2230	340	-
2300	340	-
2330	340	-
2400	340	-

CO₂ content and related data

Day 69
March 9, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)
0030	340	-
0100	340	-
0130	340	-
0200	340	-
0230	340	-
0300	340	-
0330	340	-
0400	340	-
0430	340	-
0500	340	-
0530	340	-
0600	340	-
0630	340	-
0700	340	-
0730	340	0.02
0800	340	0.04
0830	340	0.04
0900	340	0.06
0930	-	0.22
1000	-	0.28
1030	340	0.16
1100	340	0.06
1130	345	0.06
1200	350	0.16
1230	340	0.14
1300	345	0.06
1330	350	0.02
1400	345	0.06
1430	350	0.04
1500	350	0.02
1530	350	0.02
1600	350	0.04
1630	350	0.02
1700	350	-
1730	350	-
1800	350	-
1830	350	-
1900	350	-
1930	350	-
2000	345	-
2030	345	-
2100	345	-
2130	-	-
2200	-	-
2230	-	-
2300	-	-
2330	-	-
2400	-	-

CO₂ content and related dataDay 150
May 29, 1964

Time (EST)	CO ₂ (ppm)	R _f (ly/min)	Wind (cm/sec)
0030	329	-	253
0100	329	-	246
0130	329	-	213
0200	334	-	230
0230	334	-	233
0300	334	-	238
0330	334	-	225
0400	334	-	194
0430	334	-	187
0500	334	-	172
0530	334	0.04	234
0600	334	0.20	306
0630	329	0.12	315
0700	329	0.20	-
0730	329	0.50	359
0800	324	0.52	305
0830	324	0.46	395
0900	324	0.32	361
0930	324	0.16	354
1000	324	0.18	398
1030	324	0.44	440
1100	324	0.54	425
1130	324	0.22	421
1200	324	0.40	414
1230	324	0.62	401
1300	318	0.72	419
1330	318	1.24	409
1400	318	1.02	430
1430	318	1.20	446
1500	313	0.60	417
1530	313	0.28	367
1600	313	0.18	334
1630	313	0.14	308
1700	313	0.22	295
1730	313	0.18	363
1800	313	0.12	277
1830	313	0.06	243
1900	313	0.02	183
1930	324	-	84
2000	340	-	78
2030	345	-	47
2100	351	-	58
2130	345	-	93
2200	345	-	68
2230	345	-	91
2300	351	-	98
2330	351	-	89
2400	351	-	75

CO₂ content and related data

Day 151
May 30, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	345	-	86
0100	351	-	83
0130	351	-	99
0200	351	-	114
0230	340	-	119
0300	351	-	80
0330	356	-	104
0400	362	-	87
0430	362	-	91
0500	362	0.06	91
0530	362	0.10	91
0600	340	0.26	73
0630	329	0.42	80
0700	324	0.60	107
0730	318	0.56	137
0800	318	0.64	198
0830	318	0.76	198
0900	313	0.94	198
0930	308	1.04	240
1000	308	0.40	258
1030	308	0.24	285
1100	302	1.24	298
1130	302	1.20	261
1200	302	1.10	278
1230	302	1.12	259
1300	302	1.08	264
1330	297	1.06	235
1400	297	1.00	316
1430	297	0.92	344
1500	297	0.84	334
1530	292	0.70	287
1600	292	0.64	296
1630	292	0.54	263
1700	286	0.40	225
1730	286	0.28	279
1800	286	0.18	260
1830	286	0.04	138
1900	286	-	103
1930	292	-	178
2000	292	-	220
2030	297	-	115
2100	297	-	102
2130	302	-	107
2200	318	-	81
2230	329	-	139
2300	345	-	78
2330	324	-	84
2400	334	-	85

CO₂ content and related data

Day 152
May 31, 1964

Time (EST)	CO ₂ (ppm)	R _i (lv/min)	Wind (cm/sec)
0030	356	-	85
0100	351	-	85
0130	351	-	74
0200	351	-	69
0230	351	-	74
0300	356	-	92
0330	356	-	64
0400	345	-	68
0430	367	0.02	82
0500	362	0.06	88
0530	345	0.08	80
0600	340	0.12	59
0630	329	0.14	62
0700	318	0.18	78
0730	308	0.34	130
0800	302	0.40	130
0830	297	0.42	130
0900	302	0.60	130
0930	297	0.62	151
1000	297	0.66	154
1030	297	0.94	115
1100	297	1.10	158
1130	292	0.76	191
1200	292	0.84	190
1230	286	1.16	173
1300	286	0.74	194
1330	281	0.78	161
1400	281	0.80	181
1430	281	0.50	93
1500	287	0.40	111
1530	276	0.24	77
1600	276	0.20	110
1630	276	0.24	200
1700	276	0.18	157
1730	276	0.12	164
1800	274	0.04	98
1830	276	0.02	99
1900	281	-	-
1930	286	-	101
2000	302	-	78
2030	308	-	101
2100	329	-	75
2130	329	-	58
2200	334	-	52
2230	345	-	52
2300	369	-	48
2330	329	-	48
2400	351	-	60

CO₂ content and related data

Day 153
June 1, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	362	-	52
0100	362	-	58
0130	356	-	58
0200	340	-	55
0230	308	-	86
0300	308	-	86
0330	324	-	86
0400	313	0.02	141
0430	318	0.02	152
0500	318	0.04	136
0530	318	0.06	132
0600	318	0.06	133
0630	313	0.08	132
0700	308	0.10	141
0730	308	0.18	126
0800	308	0.12	96
0830	308	0.14	107
0900	308	0.26	107
0930	297	0.40	253
1000	297	0.44	253
1030	292	0.28	253
1100	297	0.12	291
1130	297	0.24	152
1200	297	0.28	-
1230	297	0.20	-
1300	297	0.20	53
1330	-	-	111
1400	297	0.20	250
1430	308	0.16	214
1500	308	0.16	169
1530	308	0.08	146
1600	313	0.08	167
1630	313	0.06	191
1700	313	0.02	128
1730	318	0.02	132
1800	318	0.02	129
1830	318	-	143
1900	324	-	110
1930	324	-	168
2000	334	-	177
2030	334	-	174
2100	340	-	159
2130	340	-	116
2200	340	-	269
2230	334	-	267
2300	329	-	258
2330	329	-	274
2400	329	-	278

CO₂ content and related data

Day 154
June 2, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	329	-	326
0100	324	-	309
0130	324	-	242
0200	324	-	165
0230	324	-	229
0300	324	-	163
0330	324	-	242
0400	324	-	227
0430	329	-	206
0500	329	0.04	154
0530	329	0.10	187
0600	324	0.20	227
0630	324	0.32	187
0700	324	0.46	253
0730	324	0.44	198
0800	324	0.38	162
0830	-	0.78	259
0900	318	0.64	244
0930	324	0.98	220
1000	324	1.22	-
1030	324	1.26	283
1100	324	1.28	387
1130	324	1.30	318
1200	324	1.36	328
1230	318	1.28	374
1300	324	1.22	369
1330	324	1.22	303
1400	318	1.06	422
1430	324	0.84	420
1500	324	0.72	408
1530	324	0.50	332
1600	324	0.30	282
1630	324	0.26	259
1700	324	0.14	246
1730	324	0.22	251
1800	318	0.14	228
1830	318	0.04	228
1900	324	-	137
1930	324	-	123
2000	324	-	110
2030	329	-	117
2100	340	-	107
2130	356	-	125
2200	356	-	79
2230	362	-	104
2300	367	-	71
2330	362	-	111
2400	362	-	152

CO₂ content and related data

Day 155
June 3, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	362	-	193
0100	362	-	183
0130	356	-	193
0200	351	-	175
0230	356	-	224
0300	356	-	222
0330	351	-	194
0400	351	-	179
0430	351	-	182
0500	351	-	141
0530	351	0.08	147
0600	351	0.06	243
0630	356	0.06	122
0700	-	0.34	83
0730	-	0.14	172
0800	334	0.10	94
0830	324	0.40	135
0900	318	1.12	180
0930	318	0.72	214
1000	318	0.64	262
1030	318	0.32	279
1100	318	0.44	252
1130	313	1.08	262
1200	318	0.88	248
1230	313	0.44	219
1300	313	0.84	234
1330	313	0.94	267
1400	313	0.14	304
1430	318	0.20	485
1500	318	0.14	290
1530	324	0.12	152
1600	318	0.16	69
1630	318	0.28	91
1700	318	0.44	129
1730	318	0.16	176
1800	318	0.16	145
1830	318	0.24	105
1900	313	0.12	74
1930	329	0.06	-
2000	340	-	67
2030	345	-	51
2100	351	-	71
2130	378	-	71
2200	362	-	55
2230	378	-	74
2300	384	-	67
2330	351	-	54
2400	378	-	94

CO₂ content and related dataDay 156
June 4, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	362	-	98
0100	351	-	98
0130	362	-	98
0200	362	-	93
0230	362	-	97
0300	362	-	94
0330	367	-	109
0400	373	-	87
0430	373	0.02	89
0500	373	0.04	69
0530	362	0.16	81
0600	351	0.26	-
0630	329	0.22	-
0700	324	0.24	-
0730	324	0.32	134
0800	324	0.82	324
0830	324	0.34	423
0900	318	0.62	534
0930	324	1.16	89
1000	324	1.32	485
1030	324	1.36	570
1100	324	0.64	589
1130	324	1.14	608
1200	324	1.20	606
1230	324	1.32	556
1300	324	1.06	572
1330	324	1.22	561
1400	318	1.02	-
1430	318	0.72	552
1500	318	0.44	562
1530	318	0.76	563
1600	318	0.64	560
1630	318	0.54	566
1700	318	0.40	598
1730	318	0.28	520
1800	318	0.20	609
1830	318	0.10	490
1900	318	0.02	494
1930	318	-	439
2000	318	-	327
2030	324	-	249
2100	329	-	170
2130	334	-	163
2200	334	-	137
2230	340	-	71
2300	356	-	61
2330	362	-	73
2400	362	-	77

CO₂ content and related data

Day 157
June 5, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	362	-	62
0100	356	-	68
0130	362	-	66
0200	362	-	65
0230	367	-	80
0300	362	-	80
0330	362	-	80
0400	362	-	89
0430	362	-	101
0500	362	0.08	92
0530	362	0.24	86
0600	356	0.32	81
0630	356	0.44	104
0700	-	0.78	91
0730	-	0.70	91
0800	308	0.88	99
0830	313	1.02	247
0900	313	1.04	210
0930	313	1.00	212
1000	313	0.74	331
1030	308	0.94	358
1100	313	0.88	295
1130	313	1.00	286
1200	308	1.46	235
1230	308	1.52	241
1300	308	1.08	214
1330	-	1.04	318
1400	-	1.00	272
1430	313	1.20	276
1500	318	0.86	256
1530	318	0.76	258
1600	318	0.68	205
1630	318	0.58	172
1700	313	0.40	151
1730	308	0.22	127
1800	-	-	-
1830	-	-	-
1900	-	-	-
1930	-	-	-
2000	-	-	-
2030	-	-	-
2100	-	-	-
2130	-	-	-
2200	-	-	-
2230	-	-	-
2300	-	-	-
2330	-	-	-
2400	-	-	-

CO₂ content and related data

Day 163
June 11, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	329	-	-
0100	334	-	299
0130	340	-	217
0200	340	-	245
0230	345	-	204
0300	357	-	95
0330	379	-	58
0400	414	-	49
0430	385	-	60
0500	402	0.02	45
0530	396	0.16	54
0600	351	0.32	67
0630	-	0.50	98
0700	351	0.54	159
0730	-	0.64	150
0800	-	0.70	303
0830	313	0.88	323
0900	318	0.98	331
0930	318	1.08	323
1000	318	0.42	381
1030	318	1.24	401
1100	318	1.24	385
1130	324	1.24	434
1200	324	1.24	465
1230	324	1.22	556
1300	324	1.18	534
1330	324	1.14	536
1400	324	1.08	431
1430	324	1.02	404
1500	324	0.94	439
1530	329	0.84	448
1600	329	0.76	430
1630	324	0.68	416
1700	329	0.52	388
1730	329	0.40	357
1800	329	0.30	312
1830	329	0.06	240
1900	334	0.04	154
1930	340	0.02	91
2000	378	-	67
2030	367	-	59
2100	384	-	58
2130	373	-	84
2200	384	-	69
2230	384	-	65
2300	395	-	71
2330	378	-	72
2400	384	-	87

CO₂ content and related data

Day 164
June 12, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	373	-	66
0100	384	-	82
0130	384	-	94
0200	378	-	92
0230	384	-	83
0300	395	-	80
0330	384	-	104
0400	373	-	122
0430	373	-	98
0500	395	0.02	72
0530	356	0.18	110
0600	340	0.30	100
0630	378	0.50	107
0700	318	0.82	124
0730	318	0.82	183
0800	313	0.52	148
0830	313	0.86	205
0900	318	1.04	225
0930	318	0.98	411
1000	318	1.24	105
1030	324	1.08	396
1100	324	1.32	405
1130	324	0.98	389
1200	324	1.26	-
1230	324	1.20	-
1300	329	1.10	-
1330	329	1.14	-
1400	329	1.12	-
1430	329	1.18	-
1500	324	0.92	-
1530	308	0.90	-
1600	308	0.52	-
1630	308	0.28	-
1700	308	0.22	-
1730	308	0.24	-
1800	313	0.12	-
1830	313	0.01	-
1900	313	0.04	-
1930	318	-	-
2000	329	-	-
2030	329	-	-
2100	318	-	-
2130	395	-	-
2200	378	-	-
2230	308	-	-
2300	318	-	-
2330	318	-	-
2400	313	-	-

CO₂ content and related data

Day 165
June 13, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0030	318	-
0100	318	-
0130	318	-
0200	318	-
0230	318	-
0300	324	-
0330	324	-
0400	324	-
0430	329	0.02
0500	329	0.32
0530	324	0.38
0600	324	0.36
0630	313	0.36
0700	313	0.48
0730	308	0.60
0800	302	0.58
0830	308	0.48
0900	308	0.44
0930	302	0.68
1000	302	0.64
1030	302	0.78
1100	302	1.32
1130	302	1.26
1200	302	1.32
1230	308	1.46
1300	308	1.26
1330	308	1.12
1400	308	0.98
1430	308	-
1500	308	-
1530	308	-
1600	308	-
1630	308	-
1700	308	-
1730	313	-
1800	313	-
1830	313	-
1900	318	-
1930	351	-
2000	367	-
2030	384	-
2100	384	-
2130	378	-
2200	367	-
2230	401	-
2300	401	-
2330	390	-
2400	384	-

CO₂ content and related data

Day 166
June 14, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	418	-	-
0100	324	-	-
0130	313	-	-
0200	318	-	-
0230	318	-	-
0300	318	-	-
0330	313	-	-
0400	318	-	-
0430	318	0.02	-
0500	318	0.04	-
0530	313	0.26	-
0600	308	0.30	-
0630	308	0.28	-
0700	313	0.44	-
0730	313	0.60	-
0800	313	0.72	-
0830	313	0.82	-
0900	313	0.90	-
0930	308	1.10	-
1000	313	1.16	-
1030	313	1.20	-
1100	313	1.26	-
1130	313	1.42	-
1200	313	1.34	-
1230	313	1.32	-
1300	313	1.56	-
1330	313	1.24	-
1400	313	1.12	-
1430	313	1.28	-
1500	308	0.96	-
1530	308	1.14	455
1600	308	0.72	424
1630	308	0.80	424
1700	308	0.48	395
1730	308	0.36	354
1800	308	0.28	315
1830	308	0.16	279
1900	313	0.06	237
1930	324	-	157
2000	351	-	109
2030	373	-	56
2100	340	-	67
2130	390	-	82
2200	362	-	74
2230	373	-	63
2300	395	-	76
2330	356	-	119
2400	378	-	79

CO₂ content and related data

Day 167
June 15, 1964

Time (EST)	CO ₂ (ppm)	R ₂ (L/min)	Wind (mi/hr)
0030	373	-	90
0100	362	-	105
0130	362	-	104
0200	324	-	161
0230	329	-	131
0300	324	-	110
0330	373	-	125
0400	329	-	132
0430	329	-	138
0500	313	-	125
0530	324	0.04	141
0600	313	0.10	101
0630	302	0.12	104
0700	297	0.08	115
0730	-	0.00	93
0800	308	0.04	154
0830	308	0.04	97
0900	308	0.04	76
0930	302	0.04	182
1000	302	0.08	156
1030	302	0.12	126
1100	308	0.06	256
1130	308	0.24	268
1200	308	0.32	250
1230	302	0.46	390
1300	302	1.28	235
1330	297	1.26	354
1400	297	1.24	343
1430	297	1.04	411
1500	297	0.46	321
1530	292	0.18	299
1600	297	0.08	288
1630	297	0.12	94
1700	297	0.12	93
1730	297	0.10	71
1800	302	0.04	305
1830	-	0.04	341
1900	308	0.01	515
1930	308	-	566
2000	302	-	526
2030	302	-	470
2100	302	-	372
2130	302	-	426
2200	308	-	398
2230	313	-	209
2300	313	-	177
2330	313	-	174
2400	324	-	252

CO₂ content and related data

Day 170
June 18, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	369	-	91
0100	375	-	94
0130	381	-	86
0200	364	-	80
0230	375	-	79
0300	381	-	76
0330	375	-	92
0400	375	-	106
0430	375	-	95
0500	369	-	110
0530	358	-	72
0600	358	0.08	90
0630	352	0.12	62
0700	335	0.24	104
0730	324	0.26	120
0800	324	0.36	135
0830	308	0.40	134
0900	308	0.40	159
0930	302	0.52	154
1000	308	0.48	197
1030	308	0.48	168
1100	308	0.64	198
1130	308	0.90	233
1200	308	1.12	270
1230	308	0.56	275
1300	308	0.86	257
1330	308	0.40	230
1400	308	0.62	197
1430	308	0.94	237
1500	308	0.88	204
1530	308	0.70	168
1600	308	0.72	183
1630	308	0.58	195
1700	308	0.56	201
1730	308	0.36	164
1800	313	0.26	155
1830	313	0.16	112
1900	318	0.08	70
1930	329	-	97
2000	345	-	90
2030	356	-	85
2100	351	-	90
2130	401	-	87
2200	401	-	105
2230	334	-	124
2300	329	-	131
2330	329	-	136
2400	334	-	134

CO₂ content and related data

Day 171
June 19, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	324	-	146
0100	324	-	176
0130	324	-	163
0200	324	-	146
0230	324	-	181
0300	324	-	207
0330	318	-	205
0400	318	-	186
0430	318	0.02	127
0500	318	0.06	127
0530	318	0.12	141
0600	313	0.18	176
0630	313	0.28	197
0700	308	0.40	198
0730	308	0.48	258
0800	308	0.76	251
0830	313	0.16	234
0900	308	0.30	-
0930	308	0.56	-
1000	313	0.38	-
1030	318	0.16	-
1100	318	0.40	-
1130	313	0.04	-
1200	313	0.44	-
1230	308	0.14	-
1300	308	0.40	-
1330	302	1.06	270
1400	302	0.56	56
1430	308	0.94	421
1500	-	0.36	218
1530	292	0.34	181
1600	292	0.36	196
1630	292	0.44	210
1700	297	0.40	191
1730	297	0.04	266
1800	302	0.12	141
1830	302	-	158
1900	313	-	147
1930	334	-	114
2000	362	-	73
2030	418	-	69
2100	401	-	75
2130	378	-	111
2200	362	-	75
2230	384	-	75
2300	362	-	98
2330	373	-	120
2400	395	-	98

CO₂ content and related dataDay 172
June 20, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	390	-	76
0100	373	-	143
0130	367	-	131
0200	407	-	91
0230	384	-	115
0300	395	-	107
0330	329	-	173
0400	367	-	81
0430	373	-	87
0500	367	0.04	124
0530	318	0.18	173
0600	318	0.36	160
0630	308	0.54	204
0700	308	0.54	236
0730	302	0.56	158
0800	302	0.62	162
0830	302	0.66	151
0900	302	0.76	202
0930	302	0.86	253
1000	292	1.06	210
1030	286	1.02	407
1100	286	1.10	400
1130	286	1.12	389
1200	286	1.08	327
1230	286	1.06	212
1300	286	1.02	230
1330	286	0.98	266
1400	286	0.96	309
1430	286	0.24	334
1500	286	0.90	351
1530	286	0.76	341
1600	286	0.68	336
1630	286	0.54	368
1700	286	0.34	330
1730	286	0.22	281
1800	286	0.20	221
1830	286	0.12	333
1900	292	0.04	209
1930	308	-	96
2000	351	-	70
2030	384	-	88
2100	351	-	113
2130	362	-	108
2200	407	-	76
2230	378	-	104
2300	390	-	68
2330	373	-	108
2400	367	-	85

CO₂ content and related data

Day 173
June 21, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)	Wind (cm/sec)
0030	407	-	48
0100	401	-	75
0130	367	-	83
0200	390	-	99
0230	345	-	66
0300	384	-	56
0330	441	-	42
0400	395	-	72
0430	441	-	58
0500	373	0.04	87
0530	395	0.20	60
0600	324	0.38	63
0630	302	0.60	64
0700	297	0.76	79
0730	292	0.98	50
0800	286	0.74	98
0830	286	0.80	87
0900	281	0.83	102
0930	276	0.96	94
1000	276	1.06	132
1030	276	1.12	187
1100	276	1.16	140
1130	276	1.18	157
1200	276	1.20	173
1230	276	1.18	161
1300	281	1.08	164
1330	281	1.00	141
1400	281	0.88	178
1430	276	0.64	170
1500	276	0.44	188
1530	276	0.40	194
1600	276	0.34	171
1630	271	0.16	103
1700	271	0.08	-
1730	286	0.06	-
1800	286	-	-
1830	292	-	-
1900	297	-	-
1930	308	-	-
2000	297	-	-
2030	308	-	-
2100	334	-	-
2130	345	-	-
2200	318	-	-
2230	345	-	-
2300	351	-	-
2330	345	-	-
2400	378	-	-

CO₂ content and related data

Day 175
June 23, 1964

Time (EST)	CO ₂ (ppm)	Ri (ly/min)	Wind (cm/sec)
0030	397	-	-
0100	351	-	-
0130	363	-	-
0200	357	-	-
0230	346	-	-
0300	340	-	-
0330	340	-	-
0400	340	0.02	-
0430	340	0.04	-
0500	335	0.08	-
0530	335	0.12	-
0600	324	0.26	-
0630	318	0.34	-
0700	318	0.40	-
0730	318	0.48	243
0800	308	0.60	427
0830	313	0.70	315
0900	313	0.78	314
0930	318	0.88	344
1000	313	0.94	256
1030	313	1.00	341
1100	313	0.64	338
1130	313	1.12	323
1200	313	1.12	352
1230	313	1.12	405
1300	308	1.04	414
1330	297	0.82	433
1400	292	0.96	433
1430	297	0.88	442
1500	302	0.78	414
1530	302	0.68	422
1600	302	0.56	398
1630	297	0.24	384
1700	302	0.26	371
1730	308	0.16	390
1800	308	0.12	399
1830	313	0.04	439
1900	318	-	472
1930	318	-	351
2000	318	-	336
2030	218	-	346
2100	318	-	303
2130	318	-	298
2200	318	-	311
2230	318	-	304
2300	324	-	252
2330	324	-	277
2400	324	-	293

CO₂ content and related dataDay 176
June 24, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	324	-	280
0100	324	-	264
0130	324	-	316
0200	324	-	228
0230	329	-	273
0300	329	-	177
0330	324	-	224
0400	324	-	205
0430	324	0.02	140
0500	334	0.22	108
0530	329	0.18	133
0600	329	0.18	104
0630	324	0.17	111
0700	-	0.12	74
0730	313	0.36	94
0800	308	0.38	124
0830	303	0.20	117
0900	297	0.22	97
0930	297	0.38	109
1000	292	0.46	299
1030	286	0.24	183
1100	286	0.38	167
1130	286	0.42	143
1200	281	0.64	180
1230	281	0.70	288
1300	281	0.72	252
1330	281	0.48	285
1400	276	0.62	277
1430	276	0.78	362
1500	276	0.60	376
1530	271	0.56	317
1600	271	0.20	335
1630	281	0.18	308
1700	281	0.24	313
1730	276	0.16	382
1800	276	0.10	439
1830	281	0.08	413
1900	281	0.04	377
1930	281	0.02	365
2000	286	-	375
2030	286	-	375
2100	292	-	268
2130	292	-	306
2200	292	-	381
2230	292	-	365
2300	292	-	323
2330	292	-	361
2400	297	-	392

CO₂ content and related data

Day 179
June 27, 1964

Time (EST)	CO ₂ (ppm)	R _f (lv/min)
0030	395	-
0100	390	-
0130	395	-
0200	395	-
0230	418	-
0300	418	-
0330	412	-
0400	334	-
0430	329	-
0500	329	-
0530	324	0.04
0600	318	0.18
0630	318	0.30
0700	318	0.40
0730	313	0.54
0800	308	0.66
0830	308	0.76
0900	308	0.36
0930	308	0.46
1000	308	0.44
1030	308	1.04
1100	302	1.24
1130	302	1.28
1200	302	0.36
1230	302	1.32
1300	302	1.24
1330	302	0.90
1400	302	0.70
1430	302	1.00
1500	302	0.88
1530	302	0.78
1600	302	0.70
1630	308	0.60
1700	308	0.48
1730	302	0.36
1800	302	0.24
1830	302	0.12
1900	302	0.04
1930	308	-
2000	324	-
2030	367	-
2100	367	-
2130	373	-
2200	367	-
2230	384	-
2300	367	-
2330	395	-
2400	401	-

CO₂ content and related data

Day 180
June 28, 1964

Time (EST)	CO ₂ (ppm)	R _i (ly/min)
0030	407	-
0100	416	-
0130	395	-
0200	424	-
0230	429	-
0300	395	-
0330	395	-
0400	407	-
0430	407	0.02
0500	390	0.06
0530	373	0.18
0600	340	0.28
0630	324	0.42
0700	318	0.52
0730	313	0.58
0800	313	0.68
0830	308	0.80
0900	302	0.90
0930	297	1.00
1000	297	1.08
1030	297	1.12
1100	297	1.16
1130	297	1.16
1200	297	1.16
1230	297	1.14
1300	292	1.12
1330	302	1.08
1400	313	1.00
1430	313	0.94
1500	313	0.84
1530	292	0.74
1600	286	0.64
1630	286	0.52
1700	286	0.46
1730	286	0.40
1800	286	0.18
1830	286	0.12
1900	286	0.04
1930	281	-
2000	302	-
2030	318	-
2100	329	-
2130	329	-
2200	334	-
2230	345	-
2300	351	-
2330	351	-
2400	351	-

CO₂ content and related data

Day 181
June 29, 1964

Time (EST)	CO ₂ (ppm)	R ₁ (ly/min)	Wind (cm/sec)
0030	356	-	-
0100	362	-	-
0130	351	-	-
0200	334	-	-
0230	362	-	-
0300	334	-	-
0330	340	-	-
0400	329	-	-
0430	324	-	-
0500	318	0.02	-
0530	318	0.10	-
0600	308	0.22	-
0630	302	0.30	-
0700	397	0.38	-
0730	292	0.50	168
0800	292	0.62	180
0830	292	0.74	189
0900	292	0.82	215
0930	286	0.86	209
1000	286	0.96	234
1030	286	0.98	240
1100	286	1.06	189
1130	286	1.14	183
1200	292	1.12	164
1230	292	1.08	183
1300	286	1.22	179
1330	286	0.96	170
1400	286	0.78	157
1430	286	0.82	140
1500	286	0.90	178
1530	286	0.74	256
1600	286	0.66	202
1630	281	0.58	168
1700	281	0.42	151
1730	281	0.36	120
1800	276	0.24	109
1830	255	0.14	57
1900	250	0.06	86
1930	255	0.02	78
2000	276	-	79
2030	286	-	90
2100	286	-	98
2130	292	-	89
2200	308	-	96
2230	313	-	87
2300	313	-	107
2330	318	-	111
2400	318	-	100

APPENDIX II

This appendix contains the carbon dioxide data used in several of the multiple regression analyses of Appendix III. These include the annual cycles of CO₂ concentration (Figure 8) and the daytime average CO₂ concentration analyses. The nighttime windspeed data are values associated with maximum or minimum CO₂ concentration for the nighttime periods of that day.

APPENDIX II

Date	Day No.	CO ₂ (ppm)			Windspeed (cm/sec)			Shortwave radiation r_i (cal/cm ² /day)
		Average Daytime	Nighttime		Average Daytime	Nighttime		
			Min.	Max.		Max. CO ₂	Min. CO ₂	
← 1964 →								
Jan.	24	24	340	350	356		336	242
	25	25	334	340	356		340	84
	26	26	334	334	356			
	27	27	345	345	356			
	28	28	340	356	373			
	29	29	329	329	373			
	30	30	334	334	361		117	108
	31	31	334	345	361			
Feb.	7	38	329	340	361			
	8	39	340	340	356			
	9	40	350	350	373		--	450
	10	41	334	334	384		--	103
	11	42	323	334	361			
	12	43	318	313	356			
	13	44	361	355	361			
	14	45	356	356	361			
	15	46	361	356	373			
	16	47	345	350	361			
	17	48	349	349	367			
	18	49	349	349	360			
	19	50	345	340	360			
	20	51	340	334	350			
	21	52	345	350	356			
	22	53	345	350	373			
	23	54	340	340	373			
	24	55	340	340	361			
	25	56	334	329	357			
	26	57	318	329	340			
	27	58	329	323	340			
Mar.	2	62	334	345	361			
	3	63	334	350	367			
	4	64	334	334	350			
	5	65	318	323	334			
	6	66	345	329	340			
	7	67	340	340	350			
	8	68	340	340	361			
	9	69	340	340	350			

Date	Day No.	CO ₂ (ppm)			Windspeed (cm/sec)			Shortwave radiation R _i (cal/cm ² /day)
		Average Daytime			Average Daytime	Night time		
			Min.	Max.		Max. CO ₂	Min. CO ₂	
May 28	149	313	323	329	--	245	331	--
29	150	318	334	351	396	80	230	327
30	151	297	297	362	268	91	110	551
31	152	281	329	367	144	49	94	381
June 1	153	297	308	362	175	56	87	121
2	154	318	324	367	319	72	226	561
3	155	318	351	384	232	68	175	325
4	156	318	334	373	511	87	300	557
5	157	308	362	367	254	63	81	626
11	163	324	329	413	419	50	300	642
12	164	313	313	395	305	81	--	629
13	165	302	318	401	--	--	--	--
14	166	308	313	418	--	--	--	700
15	167	302	302	373	247	91	456	232
16	168	307	329	362	--	227	674	--
18	170	308	329	401	200	88	134	410
19	171	302	318	418	228	70	196	297
20	172	286	351	407	287	77	114	523
21	173	276	318	441	149	43	--	550
22	174	295	351	500		--	--	--
23	175	302	318	390	373	--	341	515
24	176	276	292	329	230	225	334	302
25	177	286	292	313	192	244	365	--
26	178	297	308	401	--	--	81	--
27	179	302	329	401	--	--	--	523
28	180	286	329	429	--	--	--	610
29	181	286	286	362	--	--	95	564

Date	Day No.	CO ₂ (ppm)			Windspeed (cm/sec)			Shortwave radiation R _i (cal/cm ² /day)
		Average Daytime	Night time		Average Daytime	Night time		
			Min.	Max.		Max. CO ₂	Min. CO ₂	

← 1 9 6 2 →

July	3	184	286	286	418			771
	4	185	292	345	384			732
	5	186	292	367	378			654
	6	187	281	362	395			674
	7	188	292	395	435			724
	8	189	260	255	401			670
	9	190	266	255	324			370
	10	191	324	334	435			749
	11	192	302	384	423			429
	12	193	324	395	435			196
	13	194	286	329	453			716
	14	195	297	362	435			573
	18	199	285	394	466			457
	23	204	294	307	454			239
	24	205	315	310	408			611
	25	206	313	321	400			585
	26	207	308	321	363			395
	27	208	320	335	409			492
	28	209	273	335	430			529
	29	210	280	318	404			172
	30	211	281	313	373			404
Aug.	3	215	271	281	362			629
	4	216	263	283	332			506
	5	217	265	290	441			408
	6	218	263	292	414			396
	7	219	300	313	499			224
	8	220	286	406	500+			402
	9	221	300	320	470			149
	14	226	286	307	391			86
	15	227	260	334	429			645
	24	236	283	292	401			605
	28	240	290	334	441			360

Date	Day No.	CO ₂ (ppm)			Windspeed (cm/sec)			Shortwave radiation R _i (cal/cm ² /day)
		Average Daytime	Night time		Average Daytime	Night time		
			Min.	Max.		Max. CO ₂	Min. CO ₂	
Sept. 1	244	294	318	437				202
2	245	281	331	418				297
3	246	280	320	421				577
4	247	302	313	345				216
7	250	300	350	422				575
8	251	300	370	428				549
9	252	302	318	383				242
10	353	292	310	334				239
11	254	302	310	412	--	--	178	155
12	255	280	317	475	351	40	126	487
13	256	275	281	462	196	99	381	504
14	257	306	295	484	--	50	225	153
15	258	307	345	473	273	69	171	526
19	262	290	321	373	169	44	117	209
20	263	313	323	392	258	40	170	180
21	264	290	310	369	--	46	--	230
22	265	293	308	355	--	81	--	158
23	266	262	317	408	158	57	121	412
26	269	290	322	453	87	38	125	165
27	270	300	312	449	138	46	230	84
28	271	308	314	334	276	198	134	97
29	272	302	305	339	186	109	157	65
30	273	286	321	378	220	45	94	330
Oct. 15	288	286	292	308		180	246	
16	289	281	297	302		143	183	
29	302	313	324	345		112	212	
30	303	324	318	334		248	--	
31	304	297	302	351		117	134	
Nov. 1	305	--	340	356		87	150	
2	306	313	351	373		61	133	
3	307	318	324	378		70	58	
4	308	324	329	356		--	78	
5	309	302	308	367		--	310	
6	310	302	313	356		80	347	
7	311	308	324	356		--	282	
8	312	324	329	373		117	124	
9	313	324	297	367		129	430	
10	314	292	292	340		37	591	

Date	Day No.	CO ₂ (ppm)			Windspeed (cm/sec)			Shortwave radiation R _i (cal/cm ² /day)
		Average Daytime	Night time		Average Daytime	Night time		
			Min.	Max.		Max. CO ₂	Min. CO ₂	
Nov.	11	315	329	318	351	170	698	
	12	316	334	356	401	--	149	
	13	317	362	345	384	66	--	
	14	318	345	351	367			
	15	319	324	367	384			
	16	320	334	329	401			
	17	321	334	313	334			
	18	322	329	324	351			
	21	325	302	308	313	267	282	
	22	326	308	313	334	417	503	
	25	329	318	329	356	94	114	
	26	330	308	351	367	69	71	
	27	331	302	351	373	86	96	
	28	332	297	345	384	74	66	
	29	333	292	324	367	110	145	
	30	334	276	324	340	124	122	
Dec.	1	335	302	329	362	86	143	
	2	336	302	334	367	116	121	
	3	337	313	340	362	188	147	
	4	338	297	334	345	177	202	
	5	339	313	324	356	132	346	
	6	340	324	324	345	--	461	
	8	342	313	324	356	122	219	
	9	343	313	313	351	96	--	
	10	344	324	313	329	288		
	11	345	313	324	351	--	130	
	12	346	313	329	356			
	13	347	313	329	340			
	14	348	313	334	334			
	15	349	318	324	334			
	16	350	313	329	345			
	17	351	334	329	334			
	18	352	324	329	345			
	19	353	324	324	340			

APPENDIX III

RESULTS OF MULTIPLE REGRESSION ANALYSES PERFORMED ON SELECTED CARBON DIOXIDE DATA

I. ANNUAL CYCLES OF CARBON DIOXIDE CONCENTRATION.^{1/}

Date	Number of observations	Dependent variable ²	Independent variable ²	Correlation coefficient	Constant	Regression coefficient	F	LAG L, days
1962, 1964	168	DA CO ₂	D	+ 0.77	312.2	24.32	240.6	40
1962, 1964	168	NN CO ₂	D	+ 0.26	329.5	9.297	11.8	60
1962, 1964	168	NX CO ₂	D	- 0.57	373.0	-30.75	79.1	20

II. 1962 DAYTIME AVERAGE CARBON DIOXIDE CONCENTRATION CORRELATIONS

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient(s)	F	Significance level
July	21	CO ₂	R1	- 0.05	296.6	-5.150x10 ⁻³	0.05	N.S.
July	21	CO ₂	PS	- 0.10	759.4	-4.594x10 ⁻¹	.20	N.S.
July	21	R1	PS	+ 0.25	-10837.5	1.122x10 ¹	1.24	N.S.
July	21	CO ₂	R1 PS	.11	729.0	-2.806x10 ³ -4.279x10 ¹	1.04	N.S.

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient(s)	F	Significance level
August	12	CO ₂	R1	- 0.68	300.0	-5.316x10 ⁻²	8.60	5%
August	12	CO ₂	PS	- 0.31	1431.8	-1.137x10 ⁰	1.05	N.S.
August	12	R1	PS	+ 0.55	-25870.3	2.590x10 ¹	4.30	10%
August	12	CO ₂	R1 PS	.68	-46.5	-5.714x10 ² 3.431x10 ⁻¹	3.97	10%
Sept.	23	CO ₂	R1	- 0.42	302.5	-3.034x10 ⁻²	4.47	5%
Sept.	23	CO ₂	PS	- 0.38	1226.5	-9.173x10 ⁻¹	3.60	10%
Sept.	23	R1	PS	+ 0.38	-12636.6	1.271x10 ¹	3.63	10%
Sept.	23	CO ₂	R1 PS	.48	934.6	-2.310x10 ⁻² -6.236x10 ⁻¹	3.04	10%
J,A,S,	56	CO ₂	R1	- 0.24	298.0	-1.869x10 ⁻²	3.19	10%
J,A,S,	56	CO ₂	PS	- 0.19	964.6	-6.64ix10 ⁻¹	2.06	N.S.
J,A,S,	56	R1	PS	+ 0.12	-4718.3	5.048x10 ⁰	0.73	N.S.
J,A,S,	56	CO ₂	R1 PS	.29	883.6	-1.717x10 ² -5.774x10 ¹	2.40	10%
Sept. 11-30	11	CO ₂	R1	- 0.54	305.3	-4.763x10 ⁻²	3.76	10%
Sept. 11-30	11	CO ₂	PS	- 0.48	1810.1	-1.495x10 ⁰	2.71	N.S.

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient(s)	F	Significance level
Sept. 11-30	11	CO ₂	WIND	+ 0.22	282.5	4.577x10 ⁻²	0.45	N.S.
Sept. 11-30	11	CO ₂	R1 PS	.58	1093.3	-3.489x10 ⁻² -7.796x10 ⁻¹	2.03	N.S.
Sept. 11-30	11	CO ₂	R1 WIND	.73	287.3	-6.653x10 ⁻² 1.106x10 ⁻¹	4.45	10%
Sept. 11-30	11	CO ₂	PS WIND	.55	1882.5	-1.578x10 ⁰ 5.633x10 ⁻¹	1.74	N.S.
Sept. 11-30	11	CO ₂	R1 PS WIND	.74	750.1	-5.819x10 ⁻² -4.570x10 ⁻¹ 1.055x10 ¹	2.75	N.S.

III. 1964 DAYTIME CARBON DIOXIDE CONCENTRATION CORRELATIONS

M, J, J,	18	CO ₂	ΔT R1	+ 0.17	293.5	1.752x10 ⁻²	0.49	N.S.
M, J, J,	18	CO ₂	WIND	+ 0.66	272.7	1.048x10 ⁻¹	12.4	1%
M, J, J,	18	CO ₂	ΔTIMEY	- 0.48	301.4	-7.583x10 ⁻¹	4.90	5%
M, J, J,	18	CO ₂	WIND ΔTIMEY	.74	276.1	9.252x10 ⁻² -5.604x10 ⁻¹	9.48	1%

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient(s)	F	Significance level
IV. 1962 NIGHT TIME CARBON DIOXIDE CONCENTRATION CORRELATIONS WITHOUT WIND DATA. AUGUST 28 TO SEPTEMBER 11, 2000 to 0400 EST, AT HOURLY INTERVALS.								
A, S,	91	ΔT	$-R_n$	+ 0.70	- 1.570	6.469×10^1	84.8	1%
A, S,	91	CO_2	ΔT	+ 0.65	342.9	7.011×10^0	66.6	1%
A, S,	91	CO_2	$T_s \cdot \Delta T$	+ 0.61	346.1	4.375×10^{-1}	53.4	1%
A, S,	91	CO_2	T_a	- 0.57	418.2	-3.884×10^0	43.8	1%
A, S,	91	CO_2	$\bar{T} \cdot \Delta T$	+ 0.56	351.9	4.771×10^{-1}	41.1	1%
A, S,	91	CO_2	$-R_n$	+ 0.52	326.6	5.120×10^2	32.3	1%
A, S,	91	CO_2	\bar{T}	- 0.51	437.6	-4.694×10^0	30.5	1%
A, S,	91	CO_2	$T_a \cdot \Delta T$	+ 0.45	361.2	4.385×10^{-1}	23.0	1%
A, S,	91	CO_2	ΔPB	+ 0.35	372.8	1.917×10^2	12.8	1%
A, S,	91	CO_2	T_s	- 0.32	440.0	-4.211×10^0	9.95	1%
A, S,	91	$-R_n$	ΔPB	+ 0.30	.0904	1.613×10^{-1}	8.53	1%
A, S,	91	ΔT	ΔPB	+ 0.29	4,275	1.484×10^1	8.41	1%
A, S,	91	CC_2	TIMEH	- 0.09	372.8	-1.494×10^0	0.76	N.S.

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient	F	Significance level
V. 1962 NIGHT TIME CARBON DIOXIDE CONCENTRATION CORRELATIONS, INCLUDING WIND DATA.								
Sept. 11-30	90	CO ₂	$\bar{T} \cdot \Delta T / u$	+ 0.84	327.8	1.049×10^2	204.9	1%
Sept. 11-30	90	CO ₂	$T_s \cdot \Delta T / u$	+ 0.83	328.1	7.553×10^1	200.8	1%
Sept. 11-30	90	CO ₂	$T_s \cdot \Delta T$	+ 0.82	327.0	1.132×10^0	183.6	1%
Sept. 11-30	90	CO ₂	$\bar{T} \cdot \Delta T$	+ 0.79	331.1	1.423×10^0	147.5	1%
Sept. 11-30	90	CO ₂	$T_a \cdot \Delta T / u$	+ 0.76	334.8	1.416×10^2	124.2	1%
Sept. 11-30	90	CO ₂	$\Delta T / u$	+ 0.75	328.7	8.114×10^2	112.7	1%
Sept. 11-30	90	CO ₂	ΔT	+ 0.75	323.9	1.300×10^1	110.3	1%
Sept. 11-30	90	CO ₂	$T_a \cdot \Delta T$	+ 0.66	344.5	1.544×10^0	68.9	1%
Sept. 11-30	90	CO ₂	$\Delta T / u^2$	+ 0.63	342.8	3.424×10^4	58.2	1%
Sept. 11-30	90	CO ₂	$1/u$	+ 0.60	298.1	5.909×10^3	49.0	1%
Sept. 11-30	90	CO ₂	$1/u^2$	+ 0.51	340.4	1.719×10^5	30.9	1%
Sept. 11-30	90	CO ₂	$-R_n$	+ 0.49	320.2	6.204×10^2	27.8	1%
Sept. 11-30	90	CO ₂	T_a	- 0.43	404.7	-4.003×10^0	19.8	1%
Sept. 11-30	90	CO ₂	$(\Delta T / u)^2$	+ 0.43	360.5	6.960×10^6	19.5	1%
Sept. 11-30	90	CO ₂	\bar{T}	- 0.29	405.4	-3.353×10^0	7.85	1%
Sept. 11-30	90	CO ₂	TIMEH	+ 0.08	371.2	1.516×10^0	0.54	N.S.

Date	Number of observations	Dependent variable ²	Independent variable(s) ²	Correlation coefficient	Constant	Regression coefficient	F	Significance level
Sept. 11-30	90	CO ₂	T _s	+ 0.04	379.1	-6.365x10 ⁻¹	0.17	N.S.
Sept. 11-30	90	CO ₂	PB	+ 0.04	371.5	1.402x10 ¹	0.12	N.S.
Sept. 11-30	90	ΔT	-R _n	+ 0.62	-0.03883	4.468x10 ¹	53.7	1%
Sept. 11-30	90	ΔT	1/u	+ 0.49	0.2152	2.772x10 ²	27.7	1%
Sept. 11-30	90	ΔT	1/u	+ 0.40	2.256	7.756x10 ³	16.9	1%
Sept. 11-30	90	ΔT	ΔPB	+ 0.22	3.656	4.778x10 ⁰	4.57	5%

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VI. 1962 NIGHT TIME CARBON DIOXIDE CONCENTRATION CORRELATIONS WITH WIND ONLY

Sept. 11-30	454	CO ₂	\sqrt{w}	- 0.56	464.8	-9.845x10 ⁰	211.4	1%
Sept. 11-30	454	CO ₂	w	- 0.56	415.0	-4.523x10 ⁻¹	208.1	1%
Sept. 11-30	454	CO ₂	w ²	- 0.50	386.6	-1.350x10 ⁻³	149.6	1%
Sept. 11-30	454	CO ₂	1/w	+ 0.42	334.0	2.532x10 ³	96.1	1%
Sept. 11-30	454	CO ₂	1/w ²	+ 0.27	357.6	3.728x10 ⁴	34.6	1%
Sept. 11-30	454	log ₁₀ CO ₂	log ₁₀ w	- 0.56	2.811	-1.277x10 ⁻¹	205.0	1%
Sept. 11-16	179	CO ₂	1/w	+ 0.56	329.5	5.113x10 ³	79.8	
Sept. 19-30	275	CO ₂	1/w	+ 0.55	324.8	1.979x10 ³	118.9	1%
Sept. 11-30	454	CO ₂	$\frac{w}{\sqrt{w}}$.62	2820.1	1.433x10 ¹	54.9	1%
			w ²			-3.415x10 ²		
			1/w			-8.311x10 ⁻³		
			1/w ²			-4.242x10 ⁴		
						3.759x10 ⁵		

Date	Number of observations	Dependent variable ²	Inde- pendent variable(s) ²	Correlation coefficient	Constant	Regression coefficient	F	Significance level
J, F, M	173	CO ₂	w	- 0.03	349.8	-2.424x10 ⁻³	0.02	N.S.
J, F, M	173	CO ₂	1/w	+ 0.13	347.3	2.869x10 ²	2.90	10%
J, F, M	173	CO ₂	ΔPB	+ 0.13	349.3	6.604x10 ⁰	3.07	10%
J, F, M	173	CO ₂	TEMPB	+ 0.00	349.3	4.740x10 ⁻³	0.00	N.S.
J, F, M	173	CO ₂	w	.23	342.0	1.935x10 ⁻²	2.36	10%
			1/w			6.143x10 ²		
			ΔP			9.195x10 ⁰		
			TEMPB			1.726x10 ⁻¹		
M, J, J	271	CO ₂	SON	- 0.01	347.3	-2.121x10 ⁻³	0.01	N.S.
M, J, J	271	CO ₂	1/w	+ 0.58	311.8	3.622x10 ³	136.1	1%
M, J, J	271	CO ₂	1/w ²	+ 0.52	329.4	1.517x10 ⁵	99.3	1%
M, J, J	271	CO ₂	SON	.61	288.5	4.205x10 ⁻²	53.3	1%
			1/w			7.714x10 ³		
			1/w ²			-1.916x10 ⁵		

Footnotes to APPENDIX III

1/ The arbitrary sinusoidal equation to which the data were fit is given by:

$$CO_2 = \text{Constant} + \text{Cosine} \left[\frac{2\pi}{365} (D - L) \right] \text{ where } D \text{ is the day number and } L \text{ is the phase lag in days.}$$

2/ The variables used are defined as follows:

DA CO_2 = Daytime average CO_2 concentration (ppm).

NN CO_2 = Night time minimum CO_2 concentration (ppm).

NX CO_2 = Night time maximum CO_2 concentration (ppm).

D = Day number beginning with the first day of the calendar year.

CO_2 = CO_2 concentration (ppm).

R_i = Incident shortwave radiation flux density ($cal/cm^2/day$).

PS = Atmospheric barometric pressure at Syracuse, N. Y. reduced to sea level (m bar) computed for daytime as average from 0700 EST data.

WIND = Average daytime windspeed, from 0800 to 1600 EST, at reference level indicated in Table 3 (cm/sec).

$\Delta TIMEY$ = Day number for data covering a small portion of a year, deviation from average day number for the particular period of interest.

$-R_n$ = Negative net radiation flux density ($cal/cm^2/minute$).

T_s = Soil temperature at depth indicated in Table 3 (deg C)

T_a = Air temperature at height indicated in Table 3 (deg C)

ΔT = Delta temperature, soil temperature minus air temperature, $T_s - T_a$, (deg C)
 \bar{T} = "Average" temperature, $(T_s + T_a)/2$, (deg C).
 $T_s \cdot \Delta T$ = Soil temperature times delta temperature (deg C).
 $T_a \cdot \Delta T$ = Air temperature times delta temperature (deg C).
 $\bar{T} \cdot \Delta T$ = "Average" temperature times delta temperature (deg C).
 ΔPB = Atmospheric barometric pressure at Binghamton, N. Y. (Broome Co. airport) reduced to sea level, deviation from mean pressure over period of interest (inches Hg).
 $TIMEH$ = Hour number expressed as deviation from midnight hour, 2400 (or 0000).
 u = Reference windspeed, one hour average, at reference height in Table 3 (cm/sec).
 $\bar{T} \cdot \Delta T / u$ = "Average" temperature times delta temperature divided by reference windspeed $[(\text{deg C})^2 / (\text{sec/cm})]$.
 $T_s \cdot \Delta T / u$ = Soil temperature times delta temperature divided by reference windspeed $[(\text{deg C})^2 / (\text{sec/cm})]$.
 $T_a \cdot \Delta T / u$ = Air temperature times delta temperature divided by reference windspeed $[(\text{deg C})^2 / (\text{sec/cm})]$.
 $\Delta T / u$ = Delta temperature divided by reference windspeed (deg C·sec/cm).
 $\Delta T / u^2$ = Delta temperature divided by square of reference windspeed (deg C·sec²/cm²).
 w = Reference windspeed, 15 minute average, at reference height in Table 3. (cm/sec).
 $TEMPB$ = Temperature at Binghamton, N. Y. (Broome Co. airport), converted from Fahrenheit to centigrade (deg C).
 SON = Serial observation number (indirectly related to passage of time).

NOTE: Carbon dioxide data, unless stated otherwise, are either instantaneous values obtained at 15 minute intervals or at hourly intervals.

Shortwave radiation (R_s), and net radiation (R_n) data are either instantaneous values obtained at 15 minute intervals by a data logging system, or hourly averaged values obtained from chart records. As used here, the shortwave radiation is summed over the entire day.

Soil and air temperatures are instantaneous values obtained at hourly intervals.

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13. ABSTRACT Carbon dioxide concentration was monitored from July to December 1962, and from January to June 1964 over an agricultural field using an Infrared CO ₂ analyzer. Supporting micrometeorological data, including windspeed, incident shortwave radiation, net radiation, air temperature, and soil temperature were taken during part of the monitoring program. The CO ₂ concentration showed an annual cycling much stronger than has been observed over oceans or at high altitudes. The computed average annual daytime CO ₂ concentration near the earth's surface was 312 ppm. Diurnal cycles in concentration during the summer months frequently showed ranges in excess of 200 ppm. During July, August, and September 1962, the daytime average CO ₂ concentration at the top of the vegetation (corn) was about 291 ppm. In the diurnal cycle of CO ₂ concentration the daytime average CO ₂ concentration was very steady over an individual day, with little or no decrease during the course of a day after the nocturnal build-up had been dispersed or consumed. Incident short-wave radiation had a relatively small effect on CO ₂ concentration. Nighttime CO ₂ build-up was found to be directly proportional to mean temperature, soil-to-air temperature difference, and inversely proportional to windspeed. After harvest of the 1962 crop (corn), the diurnal cycle was altered, with a more gradual draw-down of CO ₂ occurring throughout the daylight period. After snow-cover, diurnal variations became quite small, the typical maximum range being 22 ppm.			

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